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UNITED NATIONS

# ECONOMIC SURVEY OF EUROPE IN 1983

*Prepared by the*
SECRETARIAT OF THE
ECONOMIC COMMISSION FOR EUROPE
GENEVA

NEW YORK, 1984

## NOTE

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers.

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# PREFACE

The present *Survey* is the thirty-seventh in a series of reports prepared by the secretariat of the Economic Commission for Europe to serve the needs of the Commission and to help in reporting on world economic conditions.

The *Survey* is published on the responsibility of the secretariat, and the views expressed in it should not be attributed to the Commission or to its participating Governments.

The pre-publication text of this *Survey* was completed on 5 March 1984 and made available to the 39th session of the Economic Commission for Europe. The final text, incorporating minor changes, was completed on 18 April 1984.

# EXPLANATORY NOTES

The following symbols have been used throughout this *Survey*:

A dash (–) indicates nil or negligible;

Two dots (. .) indicate not available or not pertinent;

An asterisk (*) indicates an estimate by the secretariat of the Economic Commission for Europe;

A slash (/) indicates a crop year or financial year, e.g. 1970/71;

Use of a hyphen (-) between dates representing years, for example, 1971-1973, signifies the full period involved, including the beginning and end years.

Unless the contrary is stated, the standard unit of weight used throughout is the metric ton.

The definition "billion" used throughout is one thousand million.

References to dollars ($) are to United States dollars unless otherwise stated.

Minor discrepancies are due to rounding.

The following abbreviations have been used:

| | |
|---|---|
| CMEA | Council for Mutual Economic Assistance |
| EEC | European Economic Community |
| FAO | Food and Agricultural Organization |
| IMF | International Monetary Fund |
| OECD | Organisation for Economic Co-operation and Development |
| OPEC | Organization of Petroleum Exporting Countries |
| GDP | Gross domestic product |
| GNP | Gross national product |
| NMP | Net material product |
| SDR | Special drawing rights |

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# INTRODUCTION

For several years the economies of the ECE region have suffered a marked deceleration in their rates of economic growth and, in some cases, an absolute decline in output. For the region as a whole, real growth fell from around 3 per cent in 1979 to practically zero in 1982. In 1983 there was a recovery throughout the region with total output increasing by just over 2 1/2 per cent. The pattern of annual output changes was not uniform: in the centrally planned economies the low point was reached in 1981 with an average growth rate of less than 2 per cent, whereas in the market economies the trough of the recession was in 1982 when output fell by nearly 1 per cent.

The improvement of 1983 is expected to continue in 1984: for the region as a whole output is likely to grow by about 3 1/2 per cent. This prospect applies to all areas of the region fairly evenly. Among the west European countries, those in southern Europe are likely to lag behind the rest of the region, although their performance will largely depend on the pace of output growth in the other market economies.

The recovery of output in western Europe and North America started in early 1983 against the background of large amounts of unused capacity, both of labour and capital. In these circumstances there was little risk that a recovery of demand would set off a new round of inflation: in fact inflation rates continued to fall. In the United States the recovery has followed a fairly normal path: it has been led by private consumption and residential investment, and business investment, which picked up later, will presumably provide a major support to growth in 1984. The recovery of demand in the United States has been strong enough to produce a marked fall in the rates of unemployment and idle capacity. In western Europe, however, the recovery of demand was much weaker (and more variable) than in the United States. However, at the beginning of 1984 the prospects for further improvement were strengthening. In particular, the outlook for business investment has improved, although there remains some uncertainty as to whether it will be strong enough to sustain the upswing to the point where there is a significant fall in the levels of unemployment. The upswing in the United States is still strong in the early months of 1984, but there is a risk that high and rising interest rates may slow down the rate of economic activity and increase the probability of a premature downturn. Since the beginning of 1984 most interest rates have been rising.

The upturn in the rate of economic growth in the centrally planned economies of eastern Europe and the Soviet Union started in 1982 and continued in 1983. This reflected an easing of supply bottlenecks in several critical sectors, a more efficient use of material inputs, tighter management and planning and, in the case of eastern Europe, a loosening of the balance of payments constraint. However, the pace and timing of development was not uniform. In 1982 the aggregate national output of the six east European countries stagnated, so that the increase for the centrally planned economies as a group was due to the growth of output in the Soviet Union. In 1983 the growth of output in the Soviet Union was about the same as in 1982, while there was a recovery in the east European countries.

According to the plans for 1984, total output in eastern Europe and the Soviet Union will grow at about the same rate as in 1983. In the Soviet Union this would mean that the target of the five-year plan is attainable, while in most of the east European countries this does not appear to be possible. Current rates of growth are likely to continue in the medium term, although for the smaller and more import-dependent economies of eastern Europe the outlook is inevitably more uncertain.

Following three years of stagnation or decline, the volume of world trade rose by some 1–2 per cent in 1983. Accelerated growth of imports into the ECE region – especially the pronounced recovery of north American imports – was the main factor behind this modest upturn. In other regions of the world, imports expanded only marginally or continued to fall.

In western Europe, trade growth was still quite weak in 1983, owing to the hesitant recovery of demand. Trade of the east European countries and the Soviet Union grew more strongly, with a marked acceleration in the growth of imports. East-west trade, within the ECE region, was more dynamic than trade with the rest of the world. The upswing in the volume of trade gathered strength in the course of 1983 and faster growth is expected in 1984.

Continued expansion in the industrial countries is a necessary condition for a fundamental improvement in the economic situation of the developing countries and of the debtor countries in particular. If the expansion were to falter it would have serious consequences for the debtor countries and put additional pressures on the international financial system with consequent negative repercussions in the industrialized countries themselves.

To reduce the chances of such a development a better balance of fiscal and monetary policies is needed in a number of individual developed countries and efforts are required to maintain and improve the flow of financial resources to the developing debtor countries. Monetary policies not only have a decisive influence on developments in the industrial market economies but have important consequences for the rest of the world economy including east-west trade.

*Geneva*
*18 April 1984*

# Chapter 1

# WESTERN EUROPE AND NORTH AMERICA

## 1.1 SUMMARY OF RECENT DEVELOPMENTS, SHORT-TERM PROSPECTS AND POLICY ISSUES

This section first summarizes economic developments in 1983 and forecasts for 1984. There follows a discussion of the nature and strength of the recovery now under way, and the section ends with an appraisal of the likely development of the economic situation and some of its policy implications.

### (i) Developments in 1983 and the outlook for 1984

The longest and deepest post-war recession in the market economies of the ECE region finally came to an end in the closing months of 1982. In western Europe industrial production rose by nearly 2 1/2 per cent between the fourth quarter of 1982 and the third quarter of 1983; over the same period it rose by nearly 12 1/2 per cent in North America. Provisional estimates for 1983 as a whole put GDP growth in western Europe at about 1 per cent and GNP growth in the United States at 3.3 per cent. The large difference between western Europe and North America steadily increased throughout 1983; current forecasts suggest that it will remain large in 1984.

Although the strength and other characteristics of the recovery in the *United States* are typical of most post-war recoveries, the growth of output was faster than expected at the beginning of the year. In January 1983 the Administration was forecasting year-on-year growth of 1.4 per cent but by mid-April this had been revised to 2.9 per cent. The main surprise was the very strong recovery of private consumption. Demand for consumer durables, particularly motor cars, rose very sharply in the spring and summer. Also supported by a large increase in residential investment, GNP was growing at an exceptional annual rate of nearly 10 per cent in the second quarter. Naturally there was bound to be a deceleration from such a pace but in the last quarter of 1983, when activity was affected by the severe weather in December, output was still rising at a seasonally adjusted rate of nearly 5 per cent. Employment has risen significantly, there has been a fall in the unemployment rate, and a sharp cyclical rise in productivity has helped to restrain unit labour costs and contributed to a recovery in business profits.

At the end of 1983 there were no signs that the Administration's expansive fiscal policy was exerting any excessive pressure on the real side of the economy. This was mainly because a substantial part of the rise in domestic demand has spilled over into imports which have become markedly more competitive as a result of the appreciation of the dollar. The widening trade deficit of the United States has boosted the exports of both market and centrally planned economies. However, because of the relatively low share of the United States in total west European exports, the impact of this stimulus on domestic output growth has been much less for western Europe than for Canada or Japan. Although west European exports to the United States have increased sharply, intra-European trade has also been recovering and some of the smaller economies have benefited significantly from the rapid growth of imports into the United Kingdom.

In *western Europe* the recovery of output was much weaker than in the United States and also more variable: the rate of growth slackened in the second and third quarters of 1983 and, instead of a steady acceleration, industrial production followed a saw-tooth development through the year. For the area as a whole (13 countries) GDP rose by about 1 per cent, slightly better than the forecasts made at the beginning of 1983. Within this aggregate, performance was worse than originally forecast in France and Italy, and better in the Federal Republic of Germany and the United Kingdom. The recovery in the four larger economies was not as broadly based as had been forecast: increases had been expected not only in personal consumption and stocks but also in fixed investment and net exports. In fact personal consumption turned out to be much stronger than expected (especially in the United Kingdom) while investment fell (in France and Italy) and net exports were negative, mainly because of the rapid import growth of the United Kingdom.

In the smaller west European countries the forecasts for 1983 had envisaged a fall in private consumption and a further decline in fixed investment; output growth would depend on stockbuilding, government consumption and a sharp recovery in the volume of exports of goods and services. In fact private consumption fell much less than forecast, fixed investment stabilized and exports rose rather more than expected. There was, however, some further de-stocking rather than stockbuilding. There were considerable differences among the smaller countries throughout 1983: GDP fell in Belgium and Switzerland and rose more than 3 per cent in Finland and Norway.

The much weaker growth of output in western Europe has meant that, unlike the United States, unemployment continued to rise in 1983: at the end of the year it ranged from between 1 per cent of the labour force in Switzerland to over 13 per cent in Ireland and the Netherlands. Among the larger European economies only in the United Kingdom were there any clear signs of a fall, in the second half of the year. The improvement in output, however, has led to a modest rise in employment, a reduction of short-time working and an increase in the number of vacancies.

So far the recovery of activity has not had any serious adverse effect on rates of inflation. In the United States the quarterly (year-on-year) rate of increase in consumer prices fell from 4.5 per cent in the last quarter of 1982 to just over 2 1/2 per cent in the third quarter of 1983, in the last quarter the rate increased to 3.3 per cent. This latter acceleration was mainly due to higher food prices, a result of the summer drought and reductions in the acreage under crops. Although the dollar prices of raw materials rose some 15 per cent between January and December 1983, the impact on final product prices appears to have been relatively small. Increases in productivity have been large enough to absorb these and, given the moderate rate of wage settlements, provide a boost to corporate profits. In western Europe the rate of increase in consumer prices also continued to fall throughout most of 1983, although the rate of deceleration was slowed by the appreciation of the dollar (which, for example, reduced the impact of falling oil prices). The fall in the rate of inflation, however, levelled out in the last quarter of 1983, mainly because of higher food prices and the appreciation of the dollar. The average rise in consumer prices in the last quarter (somewhat above 6 1/2 per cent) is still considerably higher than that in the United States, although in a few countries (the Netherlands, the Federal Republic of Germany and Switzerland) it was less than the American rate.

The short-run outlook for output growth in the market economies of the ECE region is for a continuing improvement. In the United States the Administration is now forecasting year-on-year GNP growth in 1984 of 5.3 per cent (or 4 1/2 per cent between the fourth quarters of 1983 and 1984). Private consumption and dwellings construction will make a smaller contribution to the increase than they did in 1983 but business investment is expected to recover strongly. In western Europe current official forecasts imply a growth rate of GDP in 1984 of 1.8 per cent (compared with 0.9 per cent in 1983). In the four largest economies this acceleration is based on a rise in fixed investment and a marked improvement in net exports (exports of goods and services are forecast to rise in volume by nearly 4 1/2 per cent). In the nine smaller economies as a group no stimulus is forecast from personal consumption but otherwise the acceleration of GDP in 1984 is expected to be broadly based on increases in fixed investment, stockbuilding and net exports (table 1.1.1).

Most of these forecasts, and much of the analysis provided below, are affected by the fact that only fragmentary and estimated data are available for the last quarter of 1983. Given the see-saw movement of many of the real variables, such as output, in the first three quarters, the analysis of underlying trends in western Europe is particularly difficult at the moment. There are, however, a number of signs that activity in the last quarter of 1983 was accelerating from the relatively sluggish pace of the second and third quarters. Industrial production (seasonally adjusted) in the European Community rose by a little more than 1 per cent between October and November, while order books (particularly for exports) also improved sharply in the last quarter.[1] With increasing business confidence and an improved outlook for business investment, GDP growth in western Europe might be somewhat more than 2 per cent rather than somewhat less (as implied in the forecasts aggregated in table 1.1.1). Even this performance, however, is very much weaker than that in the United States and still not enough to reverse the rising trend of unemployment. Moreover the prospects for a longer-term recovery which could eventually reduce unemployment to socially more acceptable levels are still very uncertain. Even the short-run outlook is accompanied by a number of serious risks. The rest of this section is devoted to a discussion of some of these.

### (ii) The sustainability of recovery

The last recession (1980–1983) was triggered by the supply-side shocks of the sharp increases in oil and other commodity prices. In the industrialized countries production costs rose, reducing profit margins. There was an acceleration in the rate of inflation which eventually led to a curb on economic growth, the downturn occurring in the early part of 1980. The squeeze on profit margins also restrained fixed investment and, consequently, the future growth of productive capacity.

There was also a demand restraint on economic activity, in addition to that on supply caused by the increase in commodity prices. The anti-inflationary economic policies were generally pro-cyclical, restraining instead of supporting economic activity. It was monetary policy in most countries which, by not accommodating the increased rate of inflation, set a ceiling to economic activity and eventually triggered a downturn. The first downswing lasted less than a year. The new upturn was somewhat stronger in the United States than western Europe but it petered out within the year. In western Europe output stagnated, with some fluctuations, throughout 1981 and into the early months of 1982. Then a second recession was superimposed on the first which resulted, on both sides of the Atlantic, in a renewed fall in output during 1982. As was pointed out in last year's *Survey*[2] the monetary character of the second recession is clearly recognisable:

- Within national economies the stringent monetary policies were reflected in high and rising nominal and real interest rates. The full impact of the monetary factor was felt in 1982 when industrial output fell both in western Europe and in the United States.
- In the international economy new forces of contraction emerged with a negative impact on developments in the industrialized countries. The financial difficulties of the developing and the east European countries led to drastic cutbacks in their imports in 1982 which added more deflationary pressure on economic activity in the industrialized countries.

According to this interpretation of the general cyclical tendencies in the industrialized countries, the prolonged recession from early 1980 to the end of 1982 was actually a double recession caused originally by supply-side disturbances but further strengthened by demand-constraining monetary policies aimed at drastically reducing the rate of inflation. Later, the normal forces of recovery which began to appear in 1981 were curbed by the tightness of both national and international financial markets.

In the United States monetary policy eased in the latter part of 1982 making room for real growth, while an expansionary fiscal policy strengthened aggregate demand. With less restraint from economic policy the recovery in output got under way before the turn of the year and gathered momentum

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[1] See Commission of the European Communities, *European Economy*, Supplement B – No. 1 – January 1984, table 6.

[2] *Economic Survey of Europe in 1982*, United Nations, New York, 1983, pp.4–6.

TABLE 1.1.1

**The growth of GDP and its main components in western Europe and the United States, 1982–1984**

| | Percentage change over previous year | | | Contribution to the change in GDP[a] | | |
|---|---|---|---|---|---|---|
| | 1982 | 1983 | 1984 | 1982 | 1983 | 1984 |
| *A. Four major European economies*[b] | | | | | | |
| Private consumption | 0.6 | 1.1 | 1.3 | 0.35 | 0.65 | 0.80 |
| Public consumption | 0.6 | 1.0 | 0.4 | 0.10 | 0.17 | 0.07 |
| Gross fixed investment | −1.9 | −0.1 | 2.6 | −0.36 | −0.02 | 0.48 |
| Change in stocks | .. | .. | .. | 0.67 | 0.06 | 0.09 |
| Exports, goods and services | 1.0 | 0.6 | 4.5 | 0.28 | 0.16 | 1.26 |
| Imports, goods and services | 2.5 | 0.6 | 3.2 | −0.62 | −0.14 | −0.83 |
| GDP at market prices | 0.4 | 0.8 | 1.9 | 0.41 | 0.82 | 1.87 |
| *B. Nine smaller economies*[c] | | | | | | |
| Private consumption | 0.5 | −0.1 | — | 0.29 | −0.05 | −0.01 |
| Public consumption | 1.4 | 1.5 | 0.3 | 0.28 | 0.31 | 0.07 |
| Gross fixed investment | −3.3 | −0.4 | 2.5 | −0.70 | −0.08 | 0.51 |
| Change in stocks | .. | .. | .. | 0.42 | −0.15 | 0.44 |
| Exports, goods and services | 0.6 | 3.5 | 3.3 | 0.29 | 1.60 | 1.54 |
| Imports, goods and services | 0.6 | 1.2 | 2.3 | −0.26 | −0.52 | −0.99 |
| GDP at market prices | 0.4 | 1.1 | 1.6 | 0.43 | 1.10 | 1.55 |
| *C. Total western Europe*[d] | | | | | | |
| Private consumption | 0.6 | 0.8 | 1.0 | 0.34 | 0.47 | 0.60 |
| Public consumption | 0.8 | 1.1 | 0.4 | 0.15 | 0.20 | 0.07 |
| Gross fixed investment | −2.2 | −0.2 | 2.5 | −0.45 | −0.03 | 0.49 |
| Change in stocks | .. | .. | .. | 0.60 | 0.01 | 0.18 |
| Exports, goods and services | 0.9 | 1.6 | 4.1 | 0.28 | 0.52 | 1.33 |
| Imports, goods and services | 1.8 | 0.8 | 2.9 | −0.53 | −0.24 | −0.87 |
| GDP at market prices | 0.4 | 0.9 | 1.8 | 0.42 | 0.89 | 1.84 |
| *D. United States* | | | | | | |
| Private consumption | 1.4 | 4.2 | .. | 0.89 | 2.77 | .. |
| Public consumption[e] | 1.9 | 0.5 | .. | 0.35 | 0.10 | .. |
| Gross fixed investment[e] | −6.9 | 8.2 | .. | −1.00 | 1.13 | .. |
| Change in stocks | .. | .. | .. | −1.18 | 0.47 | .. |
| Exports, goods and services | −7.8 | −5.7 | .. | −0.82 | −0.57 | .. |
| Imports, goods and services | 1.5 | 7.4 | .. | −0.11 | −0.59 | .. |
| GNP at market prices | −1.9 | 3.3 | 5.3[f] | −1.88 | 3.33 | 5.3[f] |

*Sources*: National statistics and official forecasts aggregated by the ECE secretariat.

[a] The component contributions may not always add up to the total GDP change because of rounding.

[b] France, the Federal Republic of Germany (GNP), Italy and the United Kingdom.

[c] Austria, Belgium, Denmark, Finland, Ireland, the Netherlands, Norway, Sweden and Switzerland.

[d] 13 countries above

[e] Public investment is included with public consumption

[f] Administration's Budget forecast of February 1984. The breakdown of the forecast is not published

throughout 1983. In western Europe the constraints on economic activity were not lifted to the same extent. Although the real growth of money supply in general was faster than that of economic activity, fiscal policies remained restrictive in most countries. In 1983 GDP in the United States was 3.3 per cent higher than in 1982, whereas in western Europe the corresponding growth rate was only 1 per cent (for details see section 1.2).

While the monetary restraint on economic activity eased in the industrialized countries, it remained tight in the international credit market for the developing debtor countries and for the centrally planned economies. The precarious international financial situation, which developed after an over-expansion of credit by the international banking system, was reflected in 1982 in a sharp increase in the number of countries which had to resort to debt rescheduling. As a result the total volume of international lending slowed down sharply, a tendency which persisted in 1983. The debt problems of a number of countries led to restraint on the part of lenders and were the major cause of the slowing of international lending. This contraction was due mainly to a decline of international bank lending (for details see section 4.1(ii)).

The development of effective international co-operation (mainly between Central Bank authorities, the commercial banks and the IMF) to draw up and implement a series of debt rescheduling agreements has clearly played an important role in dissipating the sense of impending financial crisis which hung over the world economy in the second half of 1982. Indeed "the debt crisis" is now frequently referred to in the past tense and the debt problem of many developing countries is widely seen as a problem of liquidity rather than of solvency. This sanguine view of the problem overlooks two points: first, debt rescheduling is essentially a holding operation, a means of buying time to carry out adjustment policies and to secure a better match between the timing of outgoings on debt service and of income; and second, the distinction between a liquidity problem and a solvency problem depends mainly on the creditor's estimate of the debtor's future income – a matter of optimism (or pessimism) rather than of clear-cut definition.

The international debt problem is still a major threat to international economic stability, but at the present time it does not figure very prominently in discussions of the outlook for growth in the developed economies nor does it appear to be a major consideration in the formulation of macro-economic policy in these countries. However, the prospect for output growth in the developed market economies is an important factor in determining whether or not the debt problem is one of liquidity. If it should develop into one of solvency, it would have major repercussions on growth in the developed countries. It is therefore important to include the debt problem in any discussion of policy and prospects in western Europe and North America. The following paragraphs do this by concentrating on the situation in Latin America. This does not imply that the problems of countries in Asia or Africa are unimportant; but the scale of the problem is considerably greater in Latin America. Moreover, a narrow focus may be more useful in bringing out the essentials of the issue.

Latin America, with an external debt of nearly $300 billion at the end of 1982, was especially hard hit by the international banks' reaction to the unfavourable balance of payments situation in this region. New loans to Latin America, granted by private banks reporting to the BIS, fell from $13 billion during the first three quarters of 1982 to $6 billion during the same period in 1983. Most of this lending was not considered spontaneous but rather a response by the banks to pressures from the International Monetary Fund to contribute to the rescue operations designed to facilitate the adjustment process in a number of Latin American countries. It has been estimated[3] that in 1983 the total inflow of capital to Latin America was one fourth of that in 1982 and 15 per cent of the total inflow during the four year period 1978–1981. Therefore, for the second year in a row, the amount of capital received in 1983 fell short of the amount paid abroad in interest and profits by Latin American countries. The region had to meet part of these payments for interest and profits from a trade surplus and previously accumulated international reserves. Because of the weakness in the international economic situation the trade surplus was not, in the first instance, achieved by increasing exports but rather by a severe contraction of imports.

In order to deal with their balance of payments crisis many Latin American countries had to resort to drastic measures to reduce imports. The measures adopted have had very depressing effects on output and employment. According to preliminary estimates[4] the gross domestic product of Latin America as a whole dropped by 3.3 per cent in 1983, having already declined by 1 per cent in 1982. The extraordinary policy efforts made were reflected in a sharp reversal of the aggregate trade balance from deficit to surplus. The trade balance was already showing a surplus of nearly $10 billion in 1982 but in 1983 it increased still further to $31 billion. These surpluses were achieved mainly by a drop in the value of imports of goods by 20 per cent in 1982 and 19 per cent in 1983. The current account deficit of the region fell from $36 billion in 1982 to $8 billion in 1983, the lowest level since 1974. Despite the reduction in the current account deficit the international reserves of Latin America fell again in 1983 mainly because of the sharp decline in the inflow of foreign capital.

The adjustment measures in Latin America were implemented on the assumption that a recovery of the international economy would benefit exports, restore the region's terms of trade and lower interest rates. The recovery in the industrialized countries, however, was too weak to improve the external situation of the Latin American countries.

A consequence of the deflationary policies adopted was that investment fell very sharply and in some countries a proportion of installed capital deteriorated and was even destroyed as many enterprises went out of business. The social consequences of the current situation have been no less serious. Indeed, in many Latin American countries, employment and real wages have reached the lowest levels since the Great Depression and, in some cases, have reached the point where social tensions become a serious political problem. In spite of drastic policy measures, the external debt of the Latin American region increased to over $300 billion in a considerably weak economic and social situation. The risk of a serious financial crisis has not disappeared from this region.[5]

The share of industrialized countries' exports going to developing countries with debt servicing problems, and which have therefore to restrain their imports, is not very high. Nevertheless the weakness of this trade is an additional negative effect on the recovery of economic activity in the industrialized countries.

From the point of view of those developing countries which are heavily in debt – the majority of them in Latin America – a strong recovery of their exports and lower interest rates are now necessary in order for the debt problem to improve. As the above description of Latin American developments suggests, there seems to be little room left in those countries for further deflation. Additional harsh stabilization measures may only weaken them further and reduce their capacity to recover. A continued deflationary strategy cannot be expected to provide a lasting solution to the debt problem. Such a strategy would strengthen the tendency towards world economic stagnation which in turn would further aggravate already serious financial problems.

In a recent study[6] of the debt problem, changes in the debtor countries' external debt (19 largest debtor countries were included) were related to industrial country (OECD) growth. The results of the analysis, which is based on alternative assumptions about world economic conditions, suggest that at least 2.5 per cent growth in the industrialized countries must be achieved in 1984–1986 in order for the debt problem to improve. At this growth rate the aggregate ratio of net debt to exports would decrease whereas at a lower growth rate it would increase further; even if this measure of external indebtedness declines the absolute level of indebtedness would still increase. One interesting result of this analysis is that, on average, an increase in industrial country growth would be many times more powerful in alleviating the debt problem than a fall in interest rates. In other words: to ease the debt problem it would be better to achieve a higher sustained rate of growth in the industrialized countries, even at some modest cost in increased interest rates.

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[3] Economic Commission for Latin America, *Preliminary Overview of the Latin American Economy during 1983*, United Nations Economic and Social Council, E/CEPAL/G1279, 29 December 1983.

[4] *Ibid.*

[5] The pace of lending to developing countries in Asia also slowed down in 1983 because lenders became more cautious in the wake of the Philippines' debt servicing problems and the uncertainties regarding the financing arrangements for several major Latin American countries. Total lending to developing countries in the Middle East and Africa rose considerably, however, mainly reflecting increased lending to some Middle Eastern countries. *World Financial Markets*, Morgan Guaranty Trust Company of New York, January 1984.

[6] William R. Cline, *International Debt and the Stability of the World*, Institute for International Economics, Washington 1983.

Present forecasts indicate that the industrialized countries' growth in 1984 will most probably exceed the critical 2.5 per cent rate suggested by the above-mentioned study. To achieve this growth rate in 1985–1986, however, implies that the forecast rate of economic growth in 1984 can be sustained and that no normal cyclical downturn occurs in that period. On this basis the debt problem would seem to be manageable if a reasonable medium-term growth rate could be attained in the industrialized countries. However, the risk of default by a debtor country would not immediately disappear with a strong upswing in industrial country growth. This continuing risk implies potential dangers for the international financial system and indirectly a threat to the world recovery.

The major instrument for dealing with the debt problem has been the rescheduling of debts. In the rescheduling processes "involuntary" lending by banks has been an important component. This type of new exposure by banks to debtor countries has been part of rescheduling operations under the leadership of the International Monetary Fund. Banks, by themselves, may also be willing to extend new loans to debtor countries because the basic dynamic of involuntary lending is that lenders with existing loans will increase their exposure only if new loans are likely to reduce the risks entailed by the previous exposure. Involuntary lending is forthcoming if the new loans lower the probability of country default.

The adjustment strategy in individual countries, however, may become economically and socially over-burdened to the extent that a continuation of the same strategy becomes politically less feasible. Foreign borrowing would then be necessary to avoid a collapse, by easing the excessive pressures of carrying out the adjustment policies and by providing funds for a better structure of productive capacity and the recovery of output.

However, according to World Bank estimates for the major borrowers, debt-service payments exceeded new borrowing by some $21 billion in 1983. Available data for Latin America also suggest that the inflow of foreign capital has been drying up quite fast during the last few years.

TABLE 1.1.2

**Net available financing in Latin America**[a]
*(In billion US dollars)*

| | Net inflow of capital (1) | Net payments for profits and interest (2) | Net available financing (3) = (1)–(2) |
|---|---|---|---|
| 1979 . . | 29.0 | 14.2 | 14.8 |
| 1980 . . | 29.9 | 19.0 | 10.9 |
| 1981 . . | 38.0 | 29.1 | 8.9 |
| 1982 . . | 16.6 | 36.8 | –20.2 |
| 1983 . . | 4.5 | 34.0 | –29.5 |

[a] Economic Commission for Latin America, *Preliminary Overview of the Latin American Economy during 1983*, United Nations Economic and Social Council, E/CEPAL/G1279, 29 December 1983

In the above table the net payments for profits and interest are subtracted from the net inflow of capital, thus giving a figure for the net financial flow available to these countries. It shows that the net available financing from abroad has fallen sharply from $15 billion in 1979 to a net transfer abroad of $30 billion in 1983. If new lending is not forthcoming in sufficient amounts there may be several debtor countries whose net interest payments exceed their new borrowing: in such cases a default would mean at least the benefit of not having to make a net transfer of resources abroad. If a country were to default, the first consequence would be that it would be cut off from the international capital markets, but interest payments and amortization would be terminated. There would, of course, be other costs such as disruption in its trade relations and reprisals from creditor countries which a potential defaulter must take into consideration.

It seems that the rescheduling operations of the last 18 months or so may have averted severe debt disruption in the short run as well as an international financial crisis, although the risk of default by an individual debtor country may not have diminished. Although a collapse of the international banking system is unlikely, a default would certainly have deflationary effects on the industrialized countries through the reactions of the banking system.[7] The cautiousness of international lending to the debtor countries actually reduces the chances for their recovery and maintains the risk of severe debt disruptions. This financial restraint on the debtor countries, in turn, has a depressing and potentially damaging effect on the growth prospects of the industrialized countries themselves.

Monetary restraint eased in North America and western Europe to allow for a real recovery in economic activity in 1983. Monetary expansion was above the targets set for money growth and remained so into the latter part of the year when money growth was again brought closer to the announced targets or target ranges. There is now a general awareness of the pitfalls in applying a strict rule for money supply growth and of the problems encountered in adjusting monetary conditions to accommodate a recovery in output without causing a new acceleration of inflation. Therefore caution in the relaxation of monetary policy is likely to prevail. Scope for real growth is being created without risking the credibility of the monetary authorities' ability to keep to an anti-inflationary course in the long run. An indication that monetary policy has not been over-expansionary is that real rates of interest, as conventionally measured, have not fallen although nominal interest rates have declined since 1982.

The strength of economic recovery in the United States in 1983 corresponded closely to that of a typical upturn from a cyclical trough. As regards the composition of total demand, private consumption contributed a major part of the expansion though investment accounted for a larger share than normal. On the other hand, the depressing effect of net exports was greater than usual in a recovery reflecting both growing imports and weak export growth (for details see section 1.2).

The high level of interest rates in the United States has not deterred the relatively rapid recovery of investment, encouraged most probably by sharply rising profits and the expansion of demand. Non-residential investment was particularly strong, mainly due to the growth of business investment in equipment. Business investment in structures did not recover, which was to be expected given the very low capacity utilization rates at the beginning of the upturn. A further strengthening of business investment will take place in 1984 because capacity utilization rates have been rising fast and business expectations about the continuation of the upswing remain strong. Investment is likely to take over from private consumption as the dominant demand factor in the upswing.

As the composition of business investment begins to give greater weight to investment in structures than in equipment, the upswing should become more sensitive to interest rates than in 1983.

A common explanation offered for the weak impact of high interest rates on investment is that since interest rate payments are tax deductable for firms, the after-tax cost of borrowing may be considerably lower than the cost before tax. A recent study[8] lends support to this view when it concludes that the gap between the pre- and post-tax real rates of interest is quite large in the United States. However, the study also concludes that real interest rates are still unusually high in the sense that post-tax real interest rates since 1981 have been significantly higher than at any other time since 1960.

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[7] See, for example, the interview with Dr. Fritz Leutwiler in the January 1984 issue of *Capital*, extracts of which are reprinted in *Bank for International Settlements Press Review*, No. 255 (December 1983).

Although the backlog of potential investment by businesses may be considerable, the high real rates of interest, compared with the 1960s and the 1970s, could eventually be an important factor in moderating the recovery of business investment. This negative effect on business investment would be still stronger if interest rates were to increase, which is possible for several reasons. Monetary policy might become tighter because, firstly, capital inflow to the United States, attracted by real interest rate differences may start to slow down leading to a depreciation of the dollar and, possibly, even a serious run on the dollar; secondly, the rate of inflation might begin to increase – this would in fact be normal during the cyclical upswing. For the sake of preserving the credibility of the anti-inflationary monetary policy, some tightening might then follow, even if the rise in prices were only to return inflation to its underlying "core" rate. With high, and possibly still higher, rates of interest the growth of business investment might not be sustained for as long as during a normal upswing.

After the Second World War the average cyclical upswing in the United States has lasted slightly less than three years.[9] If the rise in business investment were to be cut short by high interest rates then the present upswing might turn out to be shorter than average. A new cyclical downturn might therefore appear sooner than expected and before mid-1985. The monetary factor would then again be an important element in the slowdown of economic activity, as it was in 1981 when the upswing lasted only one year.

The recovery in industrial western Europe in 1983 compares unfavourably with that of the United States and the prospect of a strong resurgence of economic activity is not great. The weaker productive performance of western Europe goes back to the first oil crisis. From the trough in 1975 to 1983 the volume growth of GDP was about 24 per cent in the United States whereas in industrial western Europe it was only some 17 per cent. There has been hardly any growth in western Europe since the onset of the last recession in 1980, while in the United States the growth from the last peak year 1979 to 1983 was nearly 4 per cent.

Since 1980 industrial western Europe seems to have entered a phase of medium-term recession after a sharp deceleration in economic activity in the latter half of the 1970s.

This slow output growth is also reflected in the development of productive capacity and potential output. The growth of potential labour productivity (measured with potential output) has fallen by over one third compared with the period before the first oil shock. There may have been several supply-side factors which contributed to this slowdown, such as, for example, the closing of the technology gap vis-à-vis the United States. But the deceleration has been so sharp and similar across countries that the primary responsibility for the slowdown can hardly be placed on the supply side. In fact, earlier studies by the ECE secretariat strongly suggest that productivity has responded to the weak growth of output (see also section 1.5 below). It would appear that the poor output performance in western Europe has led to the emergence of a number of growth-impeding factors which have particularly influenced capital formation and, consequently, slowed down the growth of productive capacity.

Economic activity in the last ten years has remained below the ceiling set by the level of potential output, and investment has very likely been discouraged by this excess capacity. More generally, in the 1950s and 1960s a steady growth of output strengthened business confidence and there were confident expectations that governments would be able to stabilize their economies, to secure the full use of productive resources and to stimulate longer-run expansion. However, since the 1970s governments have failed to prevent two deep recessions and indeed have been instrumental in instigating or deepening them. The confidence in steady growth that had sustained investment in the 1950s and 1960s was replaced in the 1970s by much greater uncertainty and pessimism about the ability of governments to manage their economies.[10] In addition, in western Europe there has been a negative trend in profits since the 1960s which has also eroded business confidence and probably had negative effects on the willingness to invest.

Besides such factors as slow growth and low profits, economic policy developments have also contributed to the loss of business confidence and to the lowering of investment propensities. In particular, the increasing involvement of governments in the functioning of their economies, the insulation of markets from the pressures of competitive market forces, the heavy subsidization of industries, favouring the inefficient firm at the expense of the more efficient, interventions in labour markets and so on, have discouraged entrepreneurship. These factors have resulted in a loss of flexibility in the adjustment mechanism and of vitality in the European economies compared with the United States. Policies that were intended to secure economic stability and high employment have in practice made the achievement of full employment difficult by making entrepreneurship more risky and less attractive and, thus, by lowering the general propensity to invest. The accumulation of such structural problems are presumably reflected in the weakness of the recovery now under way in western Europe.

An upswing that would be sufficient to bring down unemployment in western Europe will only appear if a strong recovery of investment gets under way. However, since the underlying problems of the west European economies remain unsolved, it is unlikely that such a recovery will occur during 1984.

It is true that the industrial confidence indicator for the EEC (chart 1.1.1) was picking up during 1983, but so far the rise has not been much stronger than during 1981[11] when the fall in economic activity only levelled out, while there was a sharp recovery in the United States.

The dollar might continue to weaken vis-à-vis the European currencies during 1984, and this would ease inflationary pressures in Europe. The present cautious monetary policies in the countries of western Europe, which allow for some real growth, would then be less constrained by external factors and could be related more closely to domestic developments and possibly lend stronger support to the hesitant recovery. In contrast, the severely restrictive stance of fiscal policies is likely to continue since most governments are aiming at a further reduction of their budget deficits in 1984. Thus, in the short term, macroeconomic policies are unlikely to provide unequivocal support to the recovery in western Europe.

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[8] *Bank of England Quarterly Bulletin*, vol.23, No.4 (December 1983), pp. 471–476.

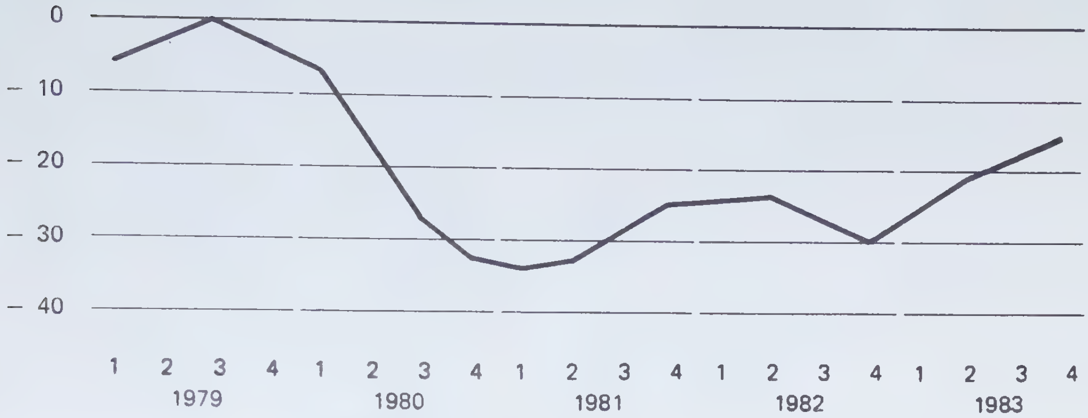
[9] See *Business Conditions Digest*, US Department of Commerce, July 1983, p.103.

[10] See, for example, Andrea Boltho (ed.), *The European Economy: Growth and Crisis*, Oxford University Press, 1982, chapter 1.

[11] See Commission of the European Communities, *European Economy*, Supplement B, No. 2, January 1984, p.2.

CHART 1.1.1

Industrial confidence in the European Community, 1979–1983 a)



Source : Commission of the European Communities, *European Economy*, Supplement B various issues

a) A composite indicator of output expectations, stocks of finished products and order books. Net balance (%) of producer's replies; weighted average for 9 EEC members

A cautious assessment of the overall economic situation would suggest that the upswing in the United States might come to an end in early 1985, while in western Europe the upswing is unlikely to be strong enough to lower the rate of unemployment. Europe would thus miss out on the current upturn as it missed the previous mini-upswing in 1981. If this were to happen:

- the ability of the United States government to take counter-cyclical measures would be circumscribed by the considerable federal budget deficit, which would also place a constraint on monetary policy;
- the structural problems and various rigidities in western Europe would not have been overcome and a new downturn in activity would slow down still further the structural adjustment process and thus strengthen the factors leading to stagnation;
- in the developing debtor countries no fundamental improvement would have had time to materialize because the required growth rate in the industrialized countries would not have been maintained for long enough. The risk of default would then increase, putting new pressures on the international financial system with potential negative repercussions on the industrialized countries.

The association of cyclical movements of economic activity between North America and industrial western Europe appears to have been weak during the present recovery. This experience does not support the view that the cycles of the major regions have become increasingly synchronized. An examination of the cycles in industrial production since 1960 shows that the strong synchronization between western Europe and North America in the period 1972–1977 was highly exceptional. This can be seen in chart 1.1.2. Regression analysis was used to compare the period before 1972–1977 and the period after 1977 and the results suggest that cyclical movements in output were no more synchronized after 1977 than before 1971.[12]

### (iii) An appraisal of the current outlook

By the end of 1983 the recovery was slowly spreading to most countries in western Europe and this should continue through 1984. There seems to be little controversy over forecasts of GDP growth of around 2 per cent in western Europe in 1984, a rate that will probably be sustained into 1985. Growth in the United States will still remain significantly stronger than in western Europe, but increasing strains are expected to develop particularly in the financial markets. The recovery of business investment in the United States in face of a large federal demand for funds, unchanged monetary policy, and a withdrawal of foreign capital could lead to some rise in interest rates. Such an increase would reinforce the usual factors which tend to slow down the growth of GNP as the period of cyclical upswing is extended.

The inflation rate in the United States could edge upwards in 1984 as a result of increased capacity utilization, some rise in food prices, and some depreciation of the dollar. In western Europe the outlook for price inflation in 1984 is for little change on 1983. High levels of unemployment will continue to restrain the growth of wages (although there may be important differences between sectors in this respect) and large margins of spare capacity will continue to exert competitive pressure on producer prices. Some increase in raw material prices (but not of oil) can be expected (and is indeed desirable for increasing longer-run supply capacities), but this will to some extent be

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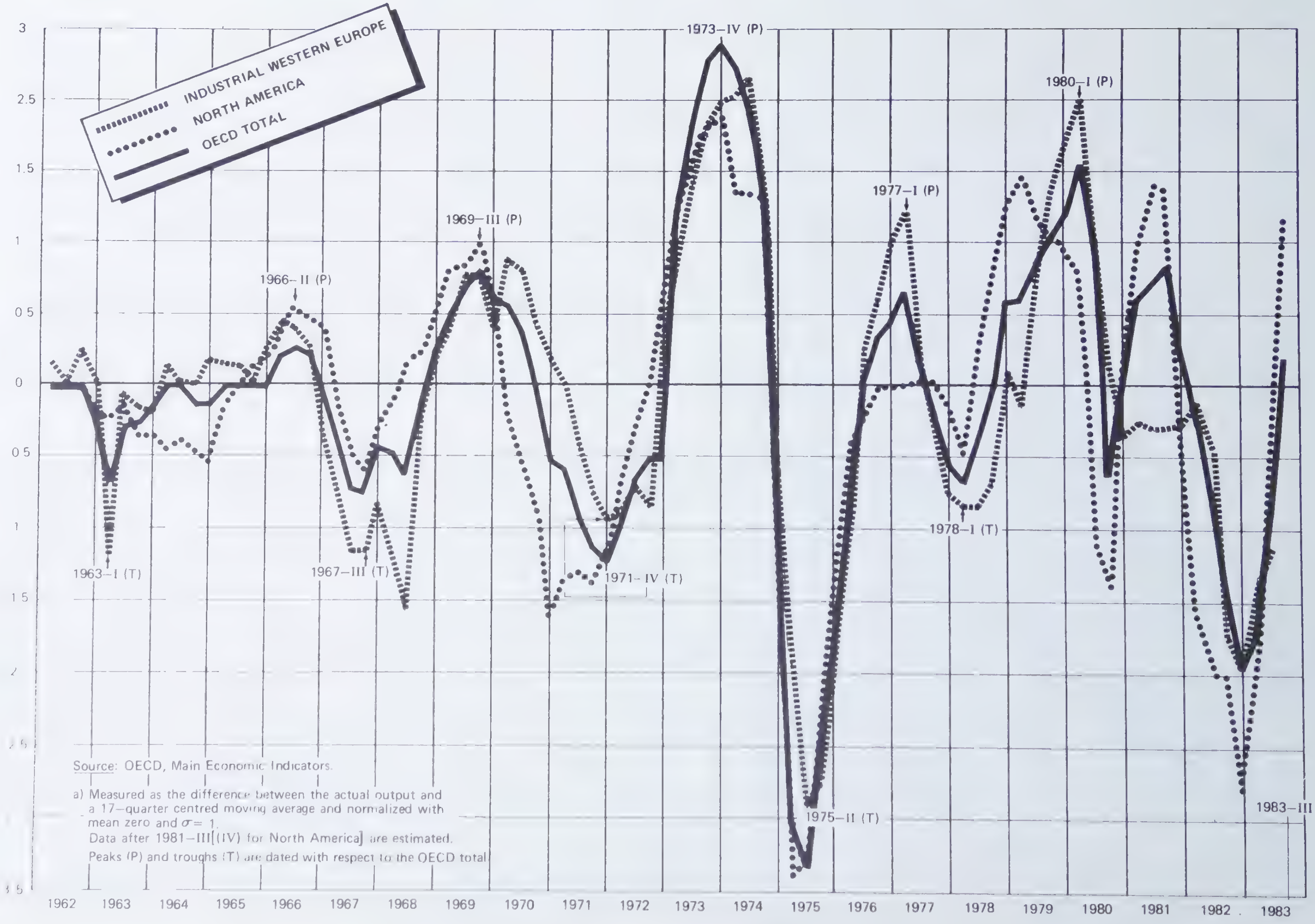
[12] See Technical Appendix at the end of this section.

## CHART 1.1.2

# CYCLES OF MANUFACTURING PRODUCTION, 1962-1982 a)



Source: OECD, Main Economic Indicators.

a) Measured as the difference between the actual output and a 17–quarter centred moving average and normalized with mean zero and $\sigma = 1$.
Data after 1981–III[(IV) for North America] are estimated.
Peaks (P) and troughs (T) are dated with respect to the OECD total.

offset by a likely appreciation of European currencies against the United States dollar. Apart from the occasional upset due to food prices or currency fluctuations, the underlying rate of inflation (the "core" rate) is still on a falling trend in western Europe and there is little reason to suppose that this will be reversed by the recovery of output now in prospect.

A continuing recovery of west European GDP in 1984 is not in dispute. The more important issue concerns the structure of the recovery and the prospects of it being sustained in 1985. Essentially this is a question about the strength of business investment. The conditions for a revival of investment have recently improved – profits have increased and the prospects for demand have strengthened – and business surveys suggest that there will be a modest increase in 1984 after several years of decline. There are, however, still many factors working against a revival of investment in western Europe: margins of spare capacity remain very high at the beginning of 1984; profits have improved but profitability remains at historically very low levels; and the continuance of high interest rates means that investment in financial assets is still attractive relative to investment in fixed assets (see below, section 1.3). This last point will be reinforced to the extent that business expectations of continued real growth in 1985 and beyond are still not very strong.

If investment does not strengthen significantly, there emerges the prospect of the recovery in Europe flattening out in 1985, at the same time or just after the next cyclical downturn appears in the United States. The consequences of this for Europe and for the indebted developing countries have already been discussed. In the following, some ways of avoiding such an outcome suggested.

The room for manoeuvre in the United States will be small, basically because of the size of the federal government's structural deficit. The possibilities for action will therefore be confined to western Europe. There is little that changes in monetary policy can achieve: first there is the long-standing argument that monetary policy in itself cannot significantly increase the level of activity; secondly any marked change in monetary policy might have an important effect on inflationary expectations and on the credibility of governments' anti-inflationary commitment.

There is, however, scope for a moderate expansion of fiscal policy in 1985 if economic activity were to weaken in western Europe. Fiscal policies have already been tight for several years in western Europe and further restriction is generally envisaged in 1984. In some countries structural budget deficits had been considerably reduced in 1983 and this process will continue in 1984; there should then be some scope for expansion. In recommending a fiscal stimulus two important points should be borne in mind. First, there is no reason for such a stimulus to mean the abandonment of attempts to reduce structural deficits or to reduce the long-run share of public expenditure in GDP. Indeed it can be argued that such attempts are likely to be partially frustrated by an extended period of slow growth or stagnation: in spite of policy statements urging structural adjustment, for example, most governments, under the short-run pressures of rapidly rising unemployment, have tended to support declining industries[13] and to implement measures which run counter to their objective of a more efficient use of resources. Secondly, the stimulus required in any one European country is moderate if it is co-ordinated with similar measures in the rest of Europe. Econometric estimates made by the OECD and the Commission of the European Communities clearly show that the stimulatory effects of a joint expansionary policy are significantly greater than the effects of isolated actions.

Governments' objectives in respect of the structure and future levels of government expenditure, of stimulating greater productive efficiency, and of maintaining the achievements of the last few years in reducing inflation should clearly influence the nature of any fiscal expansion. Priority should be given to public investments which affect the productivity of the business sector (transport, communications and other types of infrastructure investment) and to the reduction of tax burdens which affect the willingness of enterprises to increase employment and to invest. It would be desirable for such a stimulus to take effect in 1985. Meanwhile the indebted developing countries face the prospect of a moderate improvement in export earnings in 1984 but no significant improvement in the inflow of foreign capital. Given the overhang of this debt at the end of 1983, and the limited scope for further adjustment, the situation of these countries still presents a threat to economic stability in 1984 (as was argued above). It is therefore important to find ways of increasing the flow of lending to the developing debtor countries in particular in 1984 and 1985.

If efforts are not made to secure a sustained rate of growth beyond 1984, western Europe will face the prospect of prolonged stagnation; also the risk of an international financial crisis will be increased because of the weak position of the developing debtor countries. However, it is questionable whether such stagnation would continue to be tolerated for very long: growing social unrest would increase the likelihood of governments being forced to take precipitate action to reduce unemployment, and after a long period of declining or weak investment this would put at risk the considerable progress made in the last decade in lowering rates of inflation.

## Appendix: Technical note on the International Synchronisation of the business cycle, 1960–83

This note summarizes the key results of a secretariat study of international synchronisation of the business cycle among the major regions of the OECD: industrial western Europe, Japan, North America and southern Europe. The focus primarily was on whether or not the individual cycles of each major region were synchronous with the rest of the OECD area, i.e. were the cycles concurrent and how closely associated were they. Consideration was also paid to leads and lags between a given region and the rest of the OECD area. The trend of output was defined as a 17-quarter centred moving average (CMA) of the OECD series for manufacturing production and cycles were measured as deviations from this trend.[14] The quarterly time-series model tested was:

$$C_{j,t} = a + b.C_{w,t+k} + e_t, \qquad (1)$$

where cyclic values of output in region j at time t, $C_{j,t}$, were linearly related to cyclic values of output in the rest of the OECD region, $C_w$, at time t + k, where k allows for a lead (lag) of k quarters; a and b are estimated econometrically and $e_t$ denotes the error term. Values of $C_j$ and $C_w$ were adjusted to have mean zero and standard deviation of one over the longest period for which CMA trend values could be directly measured. Regressions were run on these transformed variables exclusively. Thus, a one-for-one cyclic association should show a regression coefficient, b, of one (indicating a unit change in $C_w$ is associated with an identical movement in region j).[15]

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[13] For example, some 10 per cent of employment in the textile, clothing and footwear industries of the Federal Republic of Germany and the United Kingdom was being temporarily subsidized in 1982.

[14] Because the CMA method eliminates from direct consideration the last (and first) eight quarters of data, the data were extended on the basis of a simple assumption. In order to calculate cycle values (from 1981–IV for industrial western Europe and southern Europe or from 1981–III for Japan and North America), it was assumed that the CMA *trend value* for the last calculable data applied equally to the last eight quarters of data.

Using equation (1), a significant cyclic association of output movements on a contemporaneous basis (i.e. $k=0$) was obtained for all regions.[16] However, in all cases the contemporaneous cyclic association (measured by b) was closest for 1972–1977 of all the sub-periods tested. Indeed, the association was significantly higher in the 1972–77 sub-period than for the period as a whole on a contemporaneous basis. Formally, this was established by testing an alternative version of the basic model in which an upward shift in b was allowed for during the 1971–IV to 1977–I interval. The equation tested was:

$$C_{j,t} = a + b_1.C_{w,t} + b_2.D.C_{w,t} + e \qquad (2)$$

where the dummy variable (D) takes on values of one in the 1971–IV to 1977–I interval and 0 otherwise. In all cases, a significant coefficient was established for $b_2$. The values for $b_1$, $b_2$ (with t-statistics in parentheses) are:

| | $b_1$ | $b_2$ |
|---|---|---|
| Industrial western Europe | 0.579 | 0.282 |
| | (5.6) | (2.2) |
| Japan | 0.123 | 0.878 |
| | (1.4) | (7.7) |
| North America | 0.287 | 0.541 |
| | (1.8) | (2.8) |
| Southern Europe | 0.462 | 0.404 |
| | (3.1) | (2.3) |

A major difference between the 1972–1977 interval and those for 1962–1971 and 1977–1983 was that the best fitting relationships in these latter two sub-periods (measured by $\bar{R}^2$) for industrial western Europe and Japan were those fitted with a lag and, for North America, a lead. For southern Europe, the association is roughly the same with either a one quarter lag or contemporaneous relationship in all of the time periods tested.

A comparison between the cyclic association in the periods before and after the 1972–1977 period was also made (measured by b). In each case, the association is compared between periods on the basis of the best fitting equation in each period (i.e. the lag structure of the equations sometimes differed as between periods). For industrial western Europe, the association appears to be about the same whereas for North America, the association appears to be significantly higher in the latter period but lower for Japan.

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[15] This result applies strictly to the entire time period for which the normalisation of the variables was carried out and here the value of the intercept "a" is necessarily zero. For sub-periods, the interpretation of b is approximately the same as for the entire period depending on how close the sub-period means and standard deviations are to the normalized values of mean zero and standard deviation one applying to the entire period. For sub-periods, the estimated value of the intercept $\hat{a}$ is $C_{j,t}$ - b $C_{w,t+k}$ where $\hat{b}$ is the sub-period estimator of $\hat{b}$ and $C_{j,t}$, $C_{w,t+k}$ are sub-period mean values. Thus $\hat{a}$ may be non-zero.

[16] Starting in 1970 for southern Europe.

## 1.2 OUTPUT AND DEMAND

After three years of decline or virtual stagnation, the long-awaited recovery of output in western Europe slowly got under way in 1983. At the beginning of the year the official forecasts implied a modest growth of about 0.6 per cent in total west European GDP, but even this forecast was accompanied by considerable uncertainty. Previous expectations of recovery in 1981 and 1982 had been successively disappointed and in the last quarter of 1982 output was still falling in both western Europe and North America.

Prospects for the United States at the beginning of 1983 were certainly rather better than for western Europe, but again there was considerable doubt as to the probable strength of the upturn and, indeed, given the lags with which economic information becomes available, there was still some doubt as to whether or not the turning point had actually occurred in the closing months of 1982. In the early months of 1983 the expectations of forecasters were changing rapidly in response to partial and sometimes contradictory information: the Administration's forecast in January was for year-on-year GNP growth of 1.4 per cent; by mid-April this was raised to 2.9 per cent, and there were further upward revisions during the year. In the event year-on-year growth of GNP was about 3.3 per cent: private consumption, which had disappointed the forecasters in 1982, surprised them in 1983 by growing more strongly than expected, as did investment in private housing.

In western Europe the increase of nearly 1 per cent in total GDP was actually a little better than forecast a year ago. Among the larger economies the outcome was worse than forecast in France and Italy, but this was more than offset by a better than expected performance in the Federal Republic of Germany and the United Kingdom (mainly because private consumption grew much more than forecast). In most of the smaller economies GDP also grew slightly more than forecast but this was mainly because of a better than expected increase in net exports.

As mentioned already, the uncertainties surrounding the prospects for recovery in the United States partly reflected the difficulty of accurately forecasting turning points. However, the conditions for recovery in the United States had been improving for some time. The inflation rate had been falling sharply and in mid-1982 there was a shift to a more flexible monetary policy which led to a sharp drop in short-term interest rates. This easing of policy was largely a reaction to the unexpectedly large rise in US interest rates in the first half of 1982, the continued weakness of the economy and increasing fears that the serious debt problems of a number of developing countries might lead to a default and a major international financial crisis. These fears began to recede towards the end of 1982 as interest rates fell and as the central and commercial banks developed with the IMF a joint approach to debt re-scheduling. The position of American consumers had been improving in 1982: a modest growth in wages throughout the recession had been supported by increased transfer payments and cuts in personal taxes. The inflation rate had fallen sharply so that in the last quarter of 1982 real disposable income was already about 1 per cent above its level at the bottom of the recession. In addition household balance sheets were boosted by the sharp recovery in share prices from mid-1982.

Thus although output in the United States was still falling in the last quarter of 1982, consumer spending, particularly on

TABLE 1.2.1

**Annual changes in real GDP, 1979–1984**[a]

(*Percentage change over previous year*)

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|
| France | 3.3 | 1.1 | 0.3 | 1.6 | 0.3 | 1.0 |
| Germany, Federal Republic of[b] | 4.0 | 1.9 | −0.3 | −1.2 | 1.2 | 2.0 |
| Italy | 4.9 | 3.9 | 0.1 | −0.3 | −1.4 | 2.0 |
| United Kingdom | 2.0 | −2.6 | −1.3 | 2.4 | 2.8 | 3.2 |
| *Total 4 countries* | *3.6* | *1.1* | *−0.3* | *0.4* | *0.8* | *1.9* |
| Austria | 4.7 | 3.0 | −0.1 | 1.1 | 1.5 | 1.5 |
| Belgium | 2.5 | 3.1 | −1.1 | 1.2 | −0.7 | 1.1 |
| Denmark | 3.7 | −0.8 | 0.2 | 3.1 | 2.3 | 2.8 |
| Finland | 7.6 | 6.0 | 1.5 | 2.6 | 3.3 | 3.5 |
| Ireland | 3.4 | 3.7 | 1.6 | 1.2 | 1.0 | 2.2 |
| Netherlands | 2.4 | 0.9 | −0.8 | −1.6 | 0.5 | 1.0 |
| Norway | 5.1 | 4.3 | 0.9 | 0.9 | 3.3 | −1.9 |
| Sweden | 3.8 | 1.7 | −0.6 | 0.5 | 1.9 | 2.6 |
| Switzerland | 2.5 | 4.6 | 1.5 | −1.2 | −0.1 | 1.7 |
| *Total 9 countries* | *3.5* | *2.5* | — | *0.4* | *1.1* | *1.6* |
| *Total 13 countries* | *3.6* | *1.5* | *−0.2* | *0.4* | *0.9* | *1.8* |
| United States[b] | 2.8 | −0.3 | 2.6 | −1.9 | 3.3 | 5.3 |
| Canada[b] | 3.2 | 1.0 | 3.4 | −4.4 | 2.9 | 4.9 |

*Sources*: National statistics. For 1983 estimates and 1984 forecasts see Appendix to this section

[a] At market prices

[b] GNP

durable goods, was rising and this improvement continued into the first half of 1983 with an exceptionally large increase in the second quarter. Spending was boosted by rising incomes (from increased employment), an increase in consumer debt (partly in anticipation of the July tax cuts) and a sharp drop in the personal savings ratio from 5.4 per cent in the first quarter to 4 per cent in the second. Third quarter personal consumption rose somewhat less than in the exceptional second quarter (3.5 per cent instead of 10 per cent, seasonally adjusted annual rates) but remained an important support to the growth of output. There was some recovery in the personal savings ratio in the third quarter. Additional support to the United States' recovery has come from residential investment, which increased rapidly in the wake of falling interest rates, and from stockbuilding.

Although there was some deceleration in the United States' rate of growth in the second half of the year (table 1.2.2), it was still growing strongly in the last quarter (at an annual rate of nearly 5 per cent). Seasonally adjusted national accounts data on a quarterly basis are only available for a few countries, but the data in table 1.2.2 indicate that the west European recovery was not only much weaker than in the United States but also more hesitant.

Quarterly data are more widely available for *industrial production*, although it should be borne in mind that this now accounts for well under half of total national output in western Europe and North America. Although not too much attention should be paid to small variations in these quarterly figures (they are subject to large revisions and alternative methods of seasonal adjustment can sometimes give different results), the hesitant and erratic nature of the recovery in western Europe is clear from table 1.2.3.

For Europe as a whole production was still falling in the last quarter of 1982, but in a few individual countries it had already started to rise. In the first quarter of 1983 this incipient recovery appeared to be spreading: output rose in all countries except Belgium, and in some quite sharply. However, in contrast with the United States, the pace of recovery was not sustained in the second and third quarters: the average west European rate of growth dropped to 0.5 per cent and in a

TABLE 1.2.2

**Quarterly changes in GDP, 1982–1983**
(*Percentage change over previous quarter, seasonally adjusted*)

| | 1982 | | 1983 | | | |
|---|---|---|---|---|---|---|
| | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Germany, Federal Republic of | −0.8 | −0.2 | 0.6 | 1.1 | 0.2 | 1.3 |
| Italy | −2.2 | −0.2 | 0.6 | −1.7 | 0.9 | .. |
| Sweden | −0.4 | 0.6 | −0.4 | 0.9 | 0.6 | .. |
| United Kingdom | 0.4 | 0.3 | 0.6 | −0.1 | 1.5 | 0.5 |
| United States | −0.2 | −0.3 | 0.6 | 2.3 | 1.9 | 1.2 |
| Canada | −0.8 | −0.7 | 1.6 | 1.8 | 2.0 | .. |

*Source*: OECD, *Main Economic Indicators*, Paris, January 1984, and for the Federal Republic of Germany: *Statistische Beihefte zu den Monatsberichten der Deutschen Bundesbank, Reihe 4*, No.2/1984; United Kingdom: Central Statistical Office, *Press Release*, 20 March 1984 (based on output data); United States: Council of Economic Advisers, "Annual Report", in *Economic Report of the President*, Washington D.C., February 1984.

TABLE 1.2.3

**Annual and quarterly changes in industrial production**
(*Percentage change over previous year or quarter*)

| | | | | 1983[a] | | | |
|---|---|---|---|---|---|---|---|
| | 1981 | 1982 | 1983 | Q1 | Q2 | Q3 | Q4 |
| France | −1.2 | −1.4 | 1.5 | 0.8 | — | 0.9 | 0.2 |
| Germany, Fed. Rep. of | −1.3 | −2.5 | 0.8 | 1.6 | 2.0 | −0.1 | 2.7 |
| Italy | −2.1 | −2.6 | −5.6 | 0.7 | −4.6 | 1.7 | 1.3 |
| United Kingdom | −3.7 | 1.8 | 2.6 | 1.3 | — | 1.5 | 1.0 |
| *4 major economies*[b] | *−1.8* | *−1.5* | *0.4* | *1.2* | *0.2* | *0.7* | *1.6* |
| Austria | −1.6 | −0.8 | 0.6 | 0.1 | 2.7 | 2.0 | −1.0 |
| Belgium | −2.7 | −0.2 | — | −0.3 | 2.2 | 4.0 | 0.2 |
| Finland | 2.6 | 1.0 | 2.8 | −0.3 | 4.2 | — | 0.6 |
| Ireland[c] | 1.9 | 0.5 | 6.7 | 5.9 | −3.6 | 4.4 | 3.4 |
| Netherlands | −0.9 | −3.6 | 1.0 | 3.5 | −1.2 | −1.2 | 4.1 |
| Norway | — | −0.8 | 5.4 | 3.3 | 1.2 | 0.2 | 5.4 |
| Sweden[c] | −2.4 | −0.8 | 5.5 | 1.4 | 2.4 | 0.3 | 3.2 |
| Switzerland | −0.6 | −3.8 | — | 3.0 | 0.4 | −1.4 | 2.0 |
| *8 smaller economies*[b] | *−1.1* | *−1.8* | *2.2* | *1.9* | *1.1* | *0.3* | *2.2* |
| *Total above*[b] | *−1.6* | *−1.6* | *0.8* | *1.3* | *0.5* | *0.5* | *1.7* |
| Canada | 0.9 | −10.6 | 6.0 | 5.2 | 3.0 | 4.5 | 3.3 |
| United States | 2.7 | −8.2 | 6.6 | 2.4 | 4.3 | 5.1 | 2.8 |
| North America[b] | 2.5 | −8.4 | 6.5 | 2.6 | 4.2 | 5.0 | 2.8 |

*Source*: National statistics, and OECD, *Main Economic Indicators*, March 1984, Paris

[a] Seasonally adjusted

[b] Weighted by 1975 industrial output in US dollars

[c] Mining and manufacturing

number of countries there were again absolute falls in the level of production.

This weaker and more variable performance in western Europe reflects in large measure the different stance of macroeconomic policies. In contrast with the United States, where there has been a major fiscal stimulus, European fiscal policies have tended to become tighter although monetary policy has been providing some room for a recovery in real output. However, in some of the countries where the inflation rate has fallen to low levels, private consumption supported by increased private borrowing and lower rates of personal saving provided much of the stimulus to the recovery of output (Austria, the Federal Republic of Germany and the United Kingdom, for example). There was also some support from restocking in the first half of the year but this appears to have weakened in the second half: combined with a deceleration in the fall of savings ratios this would help to account for the slower rate of growth after the first quarter.[17] In France the more restrictive policies introduced to accompany the devaluation of the franc in March 1983 began to be felt only in the second half of the year, but weaker private consumption was partly offset by an improvement in exports from the second quarter. A similar pattern – strengthening export demand and weak domestic demand – characterizes several of the smaller west European economies in 1983: in a number of cases

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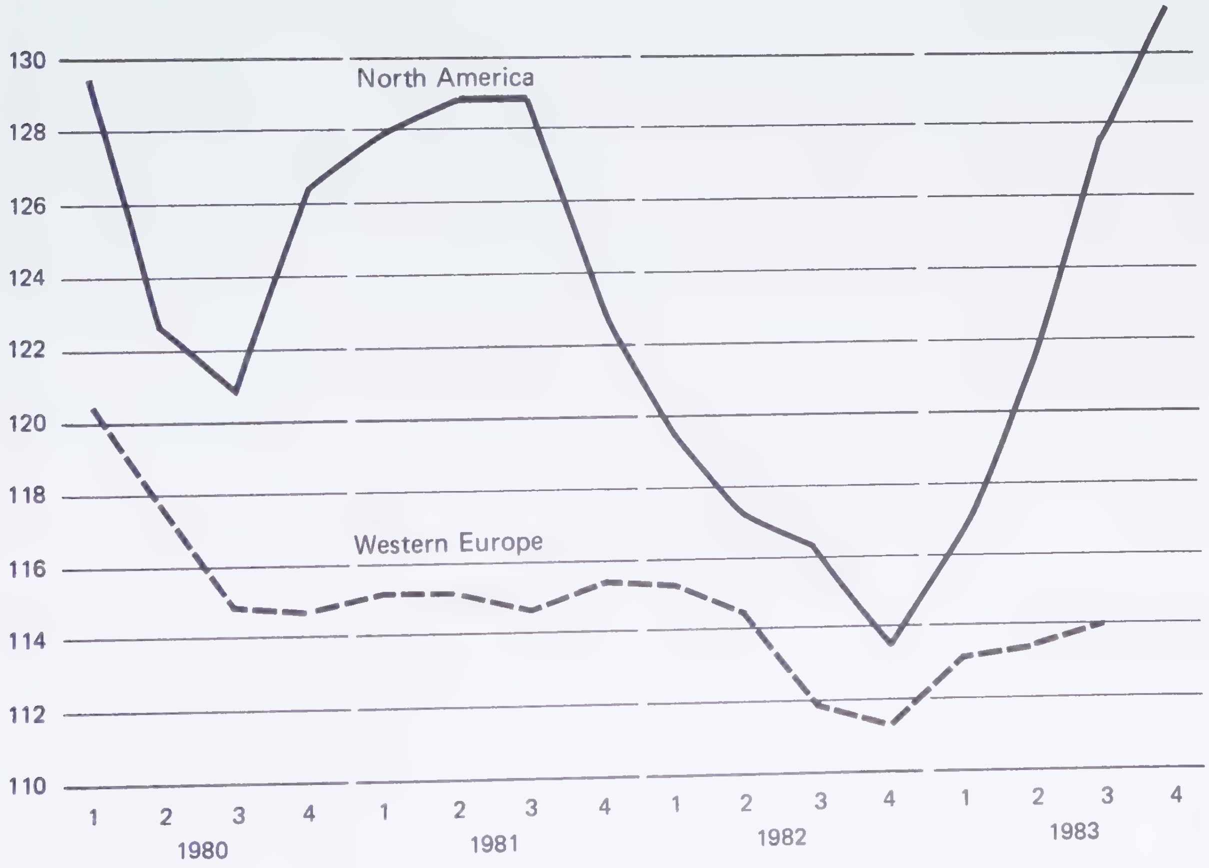
[17] In the Federal Republic of Germany the quarterly profile of output developments was also affected by consumers' anticipation of mid-year increases in VAT and by the delivery of goods ordered under the temporary investment grant: in the third quarter production of consumer goods and investment goods both fell.

CHART 1.2.1

Recession and recovery in North America and Western Europe : industrial production, 1980–1983 a)
(Index numbers, 1975 = 100)



Source: OECD, Main Economic Indicators, Paris (monthly)

a) National indices weighted by 1975 shares in total regional output. Western Europe = 13 countries external competitiveness was improved by previous devaluations, while restrictive fiscal policies were aimed at reducing public sector and balance of payments deficits and maintaining the progress towards lower rates of inflation. The relatively low degree of synchronization of output developments in 1983, both between western Europe and North America and among the European countries themselves, thus appears to be closely related to differences in the nature and timing of economic policies.

The contrast between western Europe and the United States is not just a matter of different rates of recovery. As is clear from chart 1.2.1 North America[18] has followed a more clearly cyclical path since the beginning of 1980 and has come out of the recent recession rather faster than it went in: output fell nearly 12 per cent in the five quarters from 1981–IV and has risen more than 15 per cent in the subsequent four quarters. This rate of recovery, for the 12 months following a business cycle trough, is very close to the average for seven post-war recoveries.[19] In western Europe however there was no recovery in 1980/81 and the 1982 recession occurred after one and a half years of virtual stagnation. The rapid rate of recovery in North America in 1983 is not just a reflection of the sharp fall in 1981/82, a matter of bounds and rebounds: within Europe, the fall was as great or greater in the Netherlands, Italy and the United Kingdom, but in none of these countries had the previous peak level of output been regained by the third quarter of 1983 as it had in the United States. (Indeed, the only countries to have equalled or surpassed their previous output peaks by 1983–III were Norway and Finland.) The greater vigour of the North American performance is shown by the fact that at the end of 1983 the level of output (which had already been approached at the beginning of 1980 and again in 1981) was about 30 per cent more than in 1975, the trough year of the recession which followed the first oil price shock: in western Europe output was only about 14 per cent higher.

The recovery in the United States spread to all the main industrial branches in 1983 (see table 1.2.4): by the third quarter there was some slackening in those branches most directly affected by changes in personal consumption (food, textiles, clothing, motor cars) but this was offset by faster growth in machinery and transport equipment as business investment began to pick up. Significantly, this latter branch showed no growth in western Europe.

As in the United States, the recovery in western Europe has been led by *private consumption* but, as is clear from table 1.2.5, developments have varied considerably among individual countries. Among the larger economies the recovery of private consumption has been concentrated in the Federal Republic of Germany and, especially, the United Kingdom. In both countries expenditure has picked up as a result of falling inflation (wage settlements remain modest), a fall in the savings ratio and, in the United Kingdom, a large increase in personal borrowing. In France the savings ratio also fell but in order to support a decelerating growth of disposable income: in the second half of 1983 private consumption fell in the wake of the austerity measures introduced in March. Restrictive policies also largely explain the fall in private consumption in the first half of 1983 in Italy, but tax cuts and large wage settlements appear to have led to a fairly sharp recovery in the second half.

Falls in the rates of inflation and of domestic saving were also behind the increases in private consumption in some of the smaller economies, but in many of them private consumption was constrained by tight fiscal policies and, for the group as a whole, private consumption appears to have fallen slightly in 1983.

The forecasts for 1984 do not suggest any marked quickening in the pace of recovery of private consumption: in most of the smaller countries it remains fairly weak and in the larger ones the rate of improvement is expected to slow down (particularly in the United Kingdom). However such forecasts are subject to a number of qualifications, not the least of which is the difficulty of predicting changes in the rates of personal saving. The magnitude of the falls that have occurred in a number of countries in the last year or so have taken many forecasters by surprise and there is now a tendency to assume that they will now level out or return again to somewhat higher levels. However the outcome will depend on a number of factors including consumers' expectations of inflation. Savings ratios reached (unexpectedly) high levels in the 1970s as households attempted to maintain the real value of their assets in the face of increasing inflation. The sharp drop in rates of inflation over the last two years, as well as the repeated declaration of many governments that they will not compromise their objective of price stabilization, may have lead to an indefinite reduction in these defensive levels of saving. Another factor is that although the slow pace of output recovery means that

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[18] The United States' 1975 share in North American industrial production is over 90 per cent.

[19] See Council of Economic Advisers, "Annual Report", *loc.cit.* table 6–1, p.176.

TABLE 1.2.4

**Industrial production, by main branches, in the United States and western Europe in 1983**

(*Percentage change over previous quarter*)

| | United States | | | Western Europe | | |
|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q1 | Q2 | Q3 |
| Food, beverages, tobacco | — | 2.5 | 2.4 | 1.8 | −0.9 | 3.5 |
| Textiles, clothing footwear | 4.1 | 6.9 | 5.6 | 3.3 | −3.2 | 1.1 |
| Chemicals | 3.0 | 5.9 | 4.2 | 2.5 | 1.7 | −0.8 |
| Basic metals | 17.6 | 8.8 | 4.6 | 4.2 | 3.0 | – |
| Machinery and equipment | 2.6 | 5.9 | 6.4 | −0.9 | 0.9 | — |
| *of which*: transport | 7.4 | 4.5 | 6.6 | −0.9 | 1.8 | 0.9 |
| Total manufacturing | 2.9 | 4.9 | 5.3 | 1.3 | 0.4 | 0.6 |
| Industrial production | 2.4 | 4.3 | 5.1 | 1.4 | 0.4 | 0.5 |

*Sources*: OECD, *Indicators of Industrial Activity*, and *Main Economic Indicators* - various issues. Western Europe in this table includes the south European countries

TABLE 1.2.5

**Annual changes in real private consumption, 1979–1984**
*(Percentage change over previous year)*

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|
| France | 3.4 | 1.6 | 2.1 | 3.2 | 0.8 | 0.4 |
| Germany, Federal Republic of | 3.1 | 1.4 | −1.2 | −2.2 | 1.0 | 1.0 |
| Italy | 5.3 | 4.3 | 0.5 | 0.3 | −1.0 | 1.3 |
| United Kingdom | 4.9 | −0.7 | 0.1 | 1.3 | 3.7 | 3.4 |
| *Total 4 countries* | *3.9* | *1.6* | *0.3* | *0.6* | *1.1* | *1.1* |
| Austria | 4.1 | 1.6 | 0.5 | 1.1 | 3.5 | −1.5 |
| Belgium | 4.7 | 2.1 | −1.4 | 1.1 | −2.0 | −0.6 |
| Denmark | 1.4 | −3.6 | −1.2 | 2.6 | 2.0 | 1.5 |
| Finland | 5.6 | 2.9 | 1.6 | 4.0 | 2.0 | 2.5 |
| Ireland | 4.5 | 0.8 | — | −5.3 | −3.3 | 2.0 |
| Netherlands | 3.0 | — | −1.5 | −1.6 | −1.5 | −2.0 |
| Norway | 3.2 | 2.3 | 1.1 | 1.4 | 1.5 | 1.7 |
| Sweden | 2.4 | −0.9 | −0.7 | 1.1 | −2.0 | 0.2 |
| Switzerland | 1.3 | 2.6 | 0.4 | −0.2 | 1.4 | 1.0 |
| *Total 9 countries* | *3.1* | *0.8* | *−0.7* | *0.5* | *−0.1* | — |
| *Total 13 countries* | *3.7* | *1.4* | *0.1* | *0.6* | *0.8* | *1.0* |
| United States | 2.7 | 0.5 | 2.7 | 1.4 | 4.2 | .. |
| Canada | 2.0 | 1.0 | 1.9 | −2.1 | 2.9 | 3.7 |

*Sources*: As for table 1.2.1.

TABLE 1.2.6

**Annual changes in real public consumption, 1979–1984**
*(Percentage change over previous year)*

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|
| France | 1.8 | 1.5 | 2.3 | 2.2 | 1.1 | 1.3 |
| Germany, Federal Republic of | 3.5 | 2.6 | 1.5 | −1.1 | −0.4 | — |
| Italy | 1.7 | 2.1 | 3.0 | 1.8 | 2.0 | 1.5 |
| United Kingdom | 1.9 | 1.7 | −0.2 | 1.4 | 2.7 | — |
| *Total 4 countries* | *2.5* | *2.1* | *1.5* | *0.6* | *1.0* | *0.4* |
| Austria | 3.2 | 2.3 | 1.8 | 2.0 | 2.0 | 1.5 |
| Belgium | 2.6 | 1.6 | 0.9 | −1.6 | −2.0 | 0.3 |
| Denmark | 5.9 | 4.5 | 3.0 | 3.3 | 1.6 | −0.8 |
| Finland | 3.7 | 4.4 | 3.5 | 3.6 | 4.0 | 3.5 |
| Ireland | 7.0 | 6.5 | 1.8 | 3.3 | 0.5 | −1.0 |
| Netherlands | 2.8 | 0.6 | 1.6 | 0.7 | 1.5 | −3.5 |
| Norway | 3.5 | 4.7 | 6.1 | 3.7 | 3.7 | 0.9 |
| Sweden | 4.8 | 2.3 | 2.2 | 0.7 | 1.0 | 0.9 |
| Switzerland | 1.1 | 0.9 | 2.5 | 1.8 | 4.4 | 5.3 |
| *Total 9 countries* | *3.7* | *2.5* | *2.4* | *1.4* | *1.5* | *0.3* |
| *Total 13 countries* | *2.9* | *2.2* | *1.8* | *0.8* | *1.1* | *0.4* |
| United States[a] | 1.3 | 2.2 | 0.8 | 1.9 | 0.5 | .. |
| Canada | 0.3 | 0.8 | 0.5 | 0.5 | 0.9 | 5.8 |

*Sources*: As for table 1.2.1

[a] Including public investment.

unemployment in western Europe is unlikely to fall in the near future, employment has risen modestly and short-time working has been falling: thus those in work will not only improve their earnings but they will also begin to feel more confident of retaining their jobs and this could be another reason why savings ratios could either remain at their currently low levels in some countries or even decline further.

The growth of *public consumption* (table 1.2.6) in 1983 was rather more than in 1982 and in a number of countries, particularly the smaller ones, was markedly more buoyant than private consumption: indeed, for the smaller economies as a group, public consumption was the main source of output growth after net exports. However it is clear that the growth of public expenditure has been pro- rather than counter-cyclical in the last four years. The reasons for this radical change in post-war economic policy are well known. Apart from the aim of trying to mitigate the interest rate consequences of the new stance of monetary policy after 1979, a number of western governments have been seeking to reduce the burden of taxation on individuals and enterprises which, it is widely believed, has reached levels which are damaging to personal initiative and business investment. There has also been widespread concern at the likely increase in such burdens in the next decade or so when growth rates of GDP are expected to be much lower than in the 1960s and early 1970s. Sometimes intermingled with these concerns has been a straightforward political preference for enlarging the economic role of the private sector. As can be seen from table 1.2.6, the growth of public expenditure has been sharply reduced in a number of countries where it was relatively high at the beginning of the recent recession, and a further deceleration is implied by most of the forecasts for 1984. However further restraint of public expenditure growth is becoming more difficult.[20] Initially a number of governments appeared to believe that public expenditure could be restrained by eliminating inefficiency in the public sector, so that civil servants rather than the provision of public services would suffer. The gains from eliminating such inefficiency now appear to have been over-estimated and in pursuit of their objective governments are being forced to cut welfare and other programmes and this has lead to increasing opposition and social unrest (Belgium, Denmark, and the Netherlands, for example).

The contribution of *stockbuilding* to the recovery in western Europe in 1983 was relatively limited. It was of some importance in the Federal Republic of Germany and the United Kingdom, but in France, Italy and several of the smaller countries there was further destocking (table 1.2.7). These inter-country differences are related to the different trends of output and, as output improves in the lagging countries, the rate of stockbuilding should increase in 1984, although probably at a less vigorous pace than in previous recoveries because of the continuance of high interest rates.

One reason why the anticipated recovery in output failed to appear in 1982 was the rapid deterioration in world trade which had not been foreseen at the beginning of that year. Western Europe secured only a marginal increase in the volume of exports of goods and services (instead of the 4 1/2 per cent forecast) and *the net trade balance* had a negative impact on output rather than a positive one. In 1983 there was an improvement in west European export growth (although less than forecast at the beginning of the year) and with only modest growth in imports the net balance contributed about 30 per cent of the growth in total GDP. However it is clear from table 1.2.8 that the improvement in exports was concentrated in France and the smaller countries, all of which except Belgium raised their export volumes by more than in 1982, and most of them by more than 1983 imports. Combined with low import growth, net exports provided the main source of growth in the small economies. This performance appears to be due more to improved intra-European trade than to the large deterioration in the United States trade balance,[21] and in particular to the United Kingdom where the rapid growth of private consumption has led to a large increase in imports.

Although it would not be expected to make a significant contribution to recovery at such an early stage, *investment in fixed assets* in western Europe as a whole, which had been forecast to increase slightly in 1983, actually fell for the third year running (although by a much smaller amount than in 1981 and 1982). There are however large differences among individual countries: fixed investment rose in the Federal Republic of Germany and the United Kingdom but fell quite sharply in France and, particularly, Italy; among the smaller countries it rose 4.5 per cent in Finland and fell 9 per cent in Ireland (table 1.2.9). These variations are broadly related to variations in the strength of total final demand in each country.

In the United States higher investment accounted for about one-third of GNP growth in 1983 and although investment in machinery rose by about 5 per cent, the bulk of the increase was in private housebuilding which increased by nearly 40 per cent (after four years of decline). In western Europe there has been a strong recovery in housebuilding only in Denmark and the United Kingdom (in the latter it had started increasing in 1982): in most other countries the change was marginally positive (the upturn coming in the second half of the year, in the

TABLE 1.2.7

**Annual changes in real domestic demand, excluding and including stockbuilding, 1980–1984**
(*Percentage change over previous year*)

| | 1980 | | 1981 | | 1982 | | 1983 | | 1984 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | excl. stocks | incl. stocks | excl. stocks | incl. stocks | excl. stocks | incl. stocks | excl. stocks | incl. stocks | excl. stocks | incl. stocks |
| France | 1.8 | 2.1 | 1.4 | −0.6 | 2.5 | 3.7 | 0.1 | −0.4 | 0.3 | 0.1 |
| Germany, Federal Republic of | 2.0 | 1.4 | −1.3 | −2.5 | −2.7 | −2.2 | 1.0 | 1.8 | 0.9 | 1.4 |
| Italy | 4.9 | 7.0 | 0.9 | −2.2 | −0.5 | −0.2 | −1.4 | −2.4 | 1.3 | 1.9 |
| United Kingdom | −1.1 | −3.6 | −1.6 | −1.4 | 2.1 | 2.8 | 3.3 | 3.9 | 3.5 | 3.8 |
| *Total 4 countries* | *1.8* | *1.6* | *−0.2* | *−1.7* | *0.1* | *0.8* | *0.8* | *0.8* | *1.5* | *1.5* |
| Austria | 2.2 | 2.8 | 0.2 | −2.6 | −0.3 | −1.2 | 1.9 | 2.1 | −0.1 | 0.4 |
| Belgium | 2.6 | 1.7 | −3.7 | −4.1 | −0.1 | −0.1 | −2.4 | −1.9 | −0.1 | 0.4 |
| Denmark | −3.6 | −4.7 | −2.8 | −2.5 | 3.0 | 3.5 | 1.5 | 1.2 | 1.6 | 2.3 |
| Finland | 5.7 | 6.7 | 2.2 | −1.1 | 3.8 | 4.5 | 3.0 | 3.6 | 3.3 | 3.3 |
| Ireland | 0.1 | −2.4 | 1.7 | 1.7 | −4.5 | −3.5 | −3.5 | −3.1 | 0.2 | −0.4 |
| Netherlands | 0.7 | 0.6 | −0.6 | −1.9 | −1.0 | −0.1 | −0.1 | 0.1 | 0.7 | 1.2 |
| Norway | 1.9 | 4.9 | 6.7 | 0.9 | −1.6 | 2.7 | 1.8 | −0.7 | 3.8 | 0.8 |
| Sweden | 0.9 | 1.9 | −0.8 | −2.8 | 0.4 | 0.4 | −1.3 | −1.4 | 0.6 | 2.3 |
| Switzerland | 4.3 | 5.6 | 1.2 | −1.1 | 0.4 | −1.0 | 1.4 | 1.4 | 2.0 | 2.0 |
| *Total 9 countries* | *1.4* | *1.8* | *−0.9* | *−2.7* | — | *0.4* | *0.2* | — | *0.6* | *1.0* |
| *Total 13 countries* | *1.7* | *1.6* | *−0.4* | *−2.0* | *0.1* | *0.7* | *0.6* | *0.6* | *1.2* | *1.4* |
| United States | −0.4 | −1.2 | 2.3 | 3.2 | 0.2 | −1.0 | 4.1 | 4.6 | .. | .. |
| Canada | 1.8 | — | 2.6 | 3.6 | −4.2 | −7.0 | 1.4 | 3.7 | 3.8 | 5.3 |

*Sources*: As for table 1.2.1

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[20] In the United Kingdom, where the attack on public expenditure growth has led to a substantial surplus in the full-employment budget balance, the Prime Minister has admitted that she finds it difficult to see how further cuts in present spending plans can be made.

[21] "Locomotive theorists" often appear to overlook the fact that Europe's exports to the United States are relatively small (just under 7 per cent of the total in 1982). The limited *direct* impact of United States' import demand on western Europe's total exports may be illustrated by simple arithmetic: assuming that their 1981–1982 shares of United States' imports remained constant, then a 10 per cent rise in the latter would imply a rise in exports of 7 per cent for Canada, 3 per cent for Japan, 2.5 per cent for the non-oil developing countries, and 0.6 per cent for western Europe. A significant improvement on this hypothetical performance would obviously require major gains in European competitiveness, particularly vis-à-vis Japan.

TABLE 1.2.8

**Annual changes in the volume of exports and imports of goods and services, 1980–1984**
(*Percentage change over previous year*)

| | 1980 | | 1981 | | 1982 | | 1983 | | 1984 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Exports | Imports | Exports | Imports | Exports | Imports | Exports | Imports | Exports | Imports |
| France | 2.4 | 7.2 | 5.4 | 1.6 | −3.7 | 4.8 | 2.4 | −0.8 | 4.0 | — |
| Germany, Fed. Rep. of[a] | 5.5 | 3.9 | 8.7 | 1.4 | 3.7 | 0.8 | −1.5 | −0.1 | 4.5 | 3.0 |
| Italy | −4.3 | 8.3 | 5.2 | −5.3 | 1.2 | 2.1 | 3.5 | −0.5 | 5.0 | 5.0 |
| United Kingdom | −0.1 | −3.7 | −2.0 | −2.5 | 1.4 | 3.1 | 0.6 | 4.9 | 4.9 | 7.1 |
| *Total 4 countries* | *2.1* | *3.9* | *5.2* | *−0.3* | *1.0* | *2.5* | *0.6* | *0.6* | *4.5* | *3.2* |
| Austria | 8.1 | 7.3 | 6.5 | 0.2 | 3.2 | −2.3 | 4.1 | 5.8 | 2.6 | 0.2 |
| Belgium | 4.5 | 2.1 | 3.7 | −1.4 | 2.0 | 0.2 | 1.4 | −0.5 | 2.4 | 1.3 |
| Denmark | 4.4 | −7.9 | 6.4 | −1.7 | 2.0 | 3.0 | 4.5 | 1.5 | 2.5 | 1.0 |
| Finland | 9.0 | 11.8 | 4.3 | −3.8 | −3.9 | 1.1 | 4.0 | 5.0 | 5.5 | 5.0 |
| Ireland | 6.2 | −4.4 | 1.6 | 1.8 | 4.0 | −4.4 | 10.2 | 2.5 | 10.3 | 6.0 |
| Netherlands | −0.9 | −0.4 | −10.0 | −7.2 | −5.0 | 1.1 | 0.8 | −0.5 | 0.6 | 1.5 |
| Norway | 2.1 | 3.3 | 1.4 | 1.5 | 0.2 | 4.2 | 7.6 | −0.8 | −3.1 | 2.6 |
| Sweden | −0.5 | 0.4 | 2.0 | −5.5 | 4.3 | 4.0 | 10.1 | −0.3 | 5.1 | 4.5 |
| Switzerland | 5.1 | 7.2 | 4.6 | −1.3 | −3.1 | −2.5 | 0.4 | 4.5 | 2.7 | 3.3 |
| *Total 9 countries* | *3.6* | *1.9* | *3.2* | *−3.0* | *0.6* | *0.6* | *3.5* | *1.2* | *3.3* | *2.3* |
| *Total 13 countries* | *2.6* | *3.1* | *4.5* | *−1.3* | *0.9* | *1.8* | *1.6* | *0.8* | *4.1* | *2.9* |
| United States[a] | 8.8 | −0.2 | 0.4 | 7.3 | −7.8 | 1.5 | −5.7 | 7.4 | .. | .. |
| Canada[a] | 1.9 | −2.0 | 2.8 | 3.8 | −1.6 | −11.3 | 5.2 | 8.4 | 7.3 | 8.6 |

*Sources*: As for table 1.2.1

[a] Data include factor income from and to abroad

TABLE 1.2.9

**Annual changes in real gross domestic fixed capital formation**
(*Percentage change over previous year*)

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|---|---|
| France | 3.7 | 2.4 | −1.4 | 0.5 | −2.6 | −0.5 |
| Germany, Federal Republic of | 7.3 | 3.2 | −4.2 | −5.4 | 2.4 | 4.0 |
| Italy | 5.8 | 9.4 | 0.6 | −5.3 | −5.7 | 1.0 |
| United Kingdom | 0.9 | −5.5 | −9.5 | 5.7 | 4.5 | 6.4 |
| *Total 4 countries* | *4.8* | *2.3* | *−3.4* | *−1.9* | *−0.1* | *2.6* |
| Austria | 1.9 | 3.6 | −1.7 | −5.4 | −2.2 | 2.1 |
| Belgium | −2.1 | 5.0 | −14.5 | −2.6 | −3.9 | 1.1 |
| Denmark | −0.2 | −13.2 | −15.6 | 3.7 | 1.5 | 4.5 |
| Finland | 3.8 | 10.5 | 1.2 | 3.7 | 4.5 | 5.0 |
| Ireland | 12.5 | −5.6 | 5.5 | −8.4 | −8.7 | −4.0 |
| Netherlands | −1.7 | −0.9 | −10.0 | −5.0 | 0.8 | 0.6 |
| Norway | −5.0 | −0.8 | 17.9 | −10.2 | 0.8 | 9.6 |
| Sweden | 4.5 | 3.5 | −5.3 | −1.6 | −3.2 | 1.0 |
| Switzerland | 5.1 | 9.9 | 2.4 | −2.8 | 2.2 | 1.6 |
| *Total 9 countries* | *0.9* | *2.1* | *−4.0* | *−3.3* | *−0.4* | *2.5* |
| *Total 13 countries* | *3.7* | *2.2* | *−3.6* | *−2.2* | *−0.2* | *2.5* |
| United States[a] | 3.8 | −7.1 | 2.9 | −6.9 | 8.2 | .. |
| Canada | 6.8 | 3.9 | 6.5 | −11.7 | −2.4 | 2.5 |

*Sources*: As for table 1.2.1

[a] Excluding public investment

Federal Republic for example) or negative. The outlook for 1984 is for only a slight improvement for western Europe as a whole with most of the increase being concentrated in Denmark, Finland, the Federal Republic of Germany, Norway and the United Kingdom (although in the latter the rise should be considerably less than that in 1983). Small increases are forecast in Austria, Belgium and Switzerland but elsewhere there is likely to be a further decline.

Investment in machinery and equipment[22] in western Europe as a whole continued to fall in 1983, for the third year running. There were however increases in the Federal Republic of Germany (up 4 1/2 per cent, although this may have been influenced by bunching of orders due to the temporary investment scheme), Finland, the Netherlands, Norway and Switzerland (between 2.5 and 4 per cent). In 1984 this category of investment is currently forecast to rise some 2 to 2 1/2 per cent.

Evidence of the improving outlook for industrial investment

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[22] It should be emphasized that these observations as to the breakdown of gross domestic fixed capital formation are tentative insofar as the preliminary national accounts data usually include "other construction" with either *Dwellings* (five of the countries discussed here) or with *Machinery and Equipment* (seven countries).

(a category which cuts across those of the national accounts, discussed above) is also available from the business surveys of the European Economic Community. The latest survey[23] of investment intentions indicates a rise in volume of 4.7 per cent in 1984, for the 10 member countries in aggregate. Although such investment surveys frequently overestimate actual developments, the results of this survey support the view, which emerges from the national forecasts discussed above, of a more broadly based recovery in 1984.

The attempts to reduce public expenditure and public sector deficits have in practice tended to fall more heavily on *public investment* than on current expenditure. This coincides with the aim of a number of governments to reduce the long-run growth of the public sector in general, since much capital expenditure also implies recurrent expenditure on salaries, upkeep and so on. However, public spending is a major area of the political bargaining process in the western market economies and it is perhaps safer to assume that cuts in public investment are simply easier to introduce than cuts in other forms of expenditure. As with the breakdown by type of asset, the separation of public and private investment in the statistics is only available after some delay, but the limited data in table 1.2.10 do confirm considerable cuts in fixed investment by the general government sector (i.e. nationalized industries or public corporations are excluded):

TABLE 1.2.10

**The volume of fixed investment by the general government sector, 1981–1984**
(*Percentage change over previous year*)

| | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|
| Belgium | −8.9 | −2.2 | −3.1 | 2.5 |
| Finland[a] | −0.2 | 5.4 | −0.5 | −3.0 |
| France | 1.0 | 0.3 | −0.8 | −0.2 |
| Germany, Federal Republic of[a] | −8.5 | −8.8 | .. | .. |
| Italy | 4.2 | 0.2 | .. | .. |
| Netherlands | −3.6 | −7.2 | −3.0 | −4.0 |
| Norway | −6.9 | −9.7 | −2.9 | −1.7 |
| Sweden | −4.0 | −2.7 | .. | .. |
| United Kingdom | −25.4 | −5.9 | 4.1[a] | 2.2[a] |

*Sources*: As for table 1.2.1.
[a] Total public sector

The contraction of public investment has been most severe in the United Kingdom where it fell by nearly 60 per cent between 1975 and 1982. Except in Belgium, there is little sign of this trend being reversed in 1984.

The general outlook for fixed investment in western Europe in 1984 is thus for a definite improvement in machinery and equipment, a mixed outlook for dwellings and for a further decline in public investment. The moderate increase in business investment is not surprising. Some countries are still at the early stages of recovery when fixed investment would not yet be expected to recover. Corporate profits improved in 1983 (although profitability remains very low) and this may increase the ability of private business to invest. However, the willingness to invest is another matter: interest rates are still high[24] and, more important, the prospects for demand are still relatively weak and uncertain in many countries while at the same time there still exist large margins of unused capacity, particularly in manufacturing industry.

From table 1.2.11 it can be seen that the average capacity utilization rate for 1983 was higher than in 1982 only in the United States, Canada, Sweden and the United Kingdom. For the remaining countries the estimates point to a further decline. However, these are annual averages and they may therefore tend to underestimate the increase in the utilization rates that occurred over the 12 months from January to December. In fact it may be surmised that in general the utilization rates in the fourth quarter of 1983 were slightly higher than the average rates recorded for 1982.

It remains nevertheless true that the margins of unused capacity in manufacturing industry remain large in comparison with the levels reached during the previous peak years of 1973 and 1979.

### *Appendix*

Sections 1.1 and 1.2 refer frequently, in the text and tables, to forecasts of GDP and its components in 1984. For the most part these are official national forecasts although where these were not available or sufficiently up-to-date the forecasts of independent forecasting institutes were used instead. Regional aggregates were made by the secretariat on the basis of the dollar values of the relevant variables at 1975 prices and exchange rates. The sources of the various forecasts are given below.

Austria: Oesterreichisches Institut für Wirtschaftsforschung, *Mon-*

TABLE 1.2.11

**Capacity utilization rates in manufacturing industry[a]**
(*Percentages*)

| | 1973 | 1975 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|
| Austria | 93.4 | 85.7 | 93.5 | 93.7 | 90.0 | 87.8 | 86.5 |
| Finland | 100.3 | 90.3 | 88.0 | 91.1 | 90.0 | 87.8 | 86.4 |
| France | 95.6 | 87.2 | 84.7 | 82.3 | 78.2 | 75.4 | 74.0 |
| Germany, Fed. Rep. of | 98.7 | 87.6 | 91.5 | 89.3 | 85.0 | 80.4 | 78.7 |
| Norway | 97.0 | 92.5 | 84.1 | 81.1 | 79.0 | 75.7 | 74.0 |
| Sweden | 100.4 | 91.7[b] | 91.8 | 90.8 | 86.4 | 83.1 | 85.2 |
| United Kingdom | 101.9 | 90.2 | 87.6 | 81.2 | 77.1 | 78.5 | 80.6 |
| Canada | 92.9 | 82.1 | 82.7 | 78.3 | 77.2 | 65.9 | 67.2 |
| United States | 98.9 | 82.9 | 92.6 | 85.4 | 84.8 | 76.3 | 79.4 |

[a] Secretariat estimates, based on a production function approach
[b] 1977

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[23] Commission of the European Communities, *European Economy*, Supplement B – No. 1 – January 1984. The survey was carried out in October and November of 1983. A particularly large increase is expected in the steel industry (up 23 per cent in value) but significant gains are also forecast in the engineering industry.

[24] However it has been argued that in the Federal Republic of Germany and in the United Kingdom real interest rates, particularly after tax, have not been significantly higher in the 1980s than in the 1970s and 1960s. See Bank of England, *Quarterly Bulletin*, Volume 23, No. 4, (December 1983), pp.471-476.

*atsberichte*, No.12/1983; Belgium: Ministère des Affaires Economique, *Budget Economique de 1983 et 1984*, October 1983; Denmark: Det Okonomiske Sekretariat, *Okonomisk Oversigt*, January 1984; Finland: Ministry of Finance, Economics Department *Conjunctural Review*, February 1984; France: *Comptes prévisionnels de la nation pour 1983 et principales hypothèses économiques pour 1984*, October 1983; Germany, Federal Republic of: Deutsches Institut für Wirtschaftsforschung, *Wochenbericht No.1–2/84*; Ireland: The Economic and Social Research Institute, *Quarterly Economic Commentary*, January 1984; Italy: ISCO, *Rapporto semestrale sull'evoluzione congiunturale dell'economia italiana*, February 1984; Netherlands: Central Planning Bureau, *Macro Economische Verkenning 1984*, September 1983; Norway: Ministry of Finance, *Nasjonalbudsjettet 1984*, September 1983; Sweden: *Preliminary National Budget 1984*, January 1984; Switzerland: *La Vie économique*, No.1/1984; United Kingdom: H.M. Treasury, *Financial Statement and Budget Report 1984–85*, March 1984; United States: *Economic Report of the President*, February 1984; Canada: Department of Finance, *The Canadian Economy in Recovery*, February 1984.

## 1.3 INCOMES, COSTS AND PRICES

The significant fall in the rate of inflation in western Europe and North America in 1982 continued at an accelerated rate in 1983. Measured by the year-to-year change in consumer prices, the average annual rate of increase for western Europe as a whole fell from 9.6 per cent in 1982 to 7.0 per cent in 1983 (table 1.3.1). In the United States the rate, which has fallen much faster than in western Europe since the second oil shock, declined from 6.1 per cent in 1982 to 3.2 per cent in 1983. Whereas in western Europe inflation was still just above its lowest rate after the first oil shock (6.9 per cent in 1978) and considerably higher than before 1973, in the United States it was at its lowest since 1968. The difference between the average west European and the United States inflation rates enlarged significantly during 1983 with the rate in the United States being less than half that in western Europe. Currency misalignments (that is, the significantly overvalued dollar for much of the period since early 1980), have probably led to some understatement of the underlying inflation rate in the United States and to an over-statement in some European countries.[25] Despite the significant difference between the European average and the United States, there were some European countries where the inflation rate was lower than in the United States (the Netherlands, the Federal Republic of Germany and Switzerland).

The implicit price deflator of GDP, which is a broader measure of price inflation and which more closely reflects domestic cost developments, decelerated as fast as consumer prices in western Europe as a whole: from some 9.4 per cent to about 7 per cent (table 1.3.2). It decelerated less than consumer prices in Denmark, Finland, the Federal Republic of Germany, Ireland and the United Kingdom. In North America consumer prices decelerated faster than the GDP deflator, particularly in the United States.

In western Europe the annual inflation rate fell in all countries (except Sweden) during 1983 and inter-country differences narrowed slightly compared with 1982.[26] The sharpest rates of decline were in the Netherlands, Switzerland, the Federal Republic of Germany, Austria and the United Kingdom. For the year as a whole, the lowest rate was in the Netherlands (2.8 per cent), closely followed by Switzerland (2.9 per cent) and the Federal Republic of Germany (3.0 per cent); the highest was in Italy (14.7 per cent). In Italy the sharp acceleration of service prices and particularly public utility charges in the first half of the year kept the rate high despite the further downturn in demand; however, contrary to the pattern in the rest of western Europe, the rate started to decelerate in the second half of the year. Some increase in the rate of inflation in Finland and Sweden in the second half of the year

TABLE 1.3.1

**Annual and quarterly changes in consumer prices, 1981–1983**

(*Percentage change over corresponding period of preceding year*)

| | | | | 1982 | | | | 1983 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1981 | 1982 | 1983 | Q.1 | Q.2 | Q.3 | Q.4 | Q.1 | Q.2 | Q.3 | Q.4 |
| Austria | 6.8 | 5.4 | 3.3 | 6.0 | 5.9 | 5.2 | 4.7 | 3.9 | 2.7 | 3.1 | 3.7 |
| Belgium | 7.6 | 8.7 | 7.7 | 7.6 | 9.2 | 9.1 | 8.9 | 8.7 | 7.6 | 7.6 | 6.8 |
| Denmark | 11.7 | 10.1 | 6.9 | 11.6 | 9.5 | 9.6 | 9.9 | 8.5 | 7.5 | 6.1 | 5.6 |
| Finland | 12.0 | 9.6 | 8.3 | 10.3 | 10.4 | 9.6 | 8.1 | 7.9 | 7.8 | 8.5 | 9.2 |
| France | 13.4 | 11.8 | 9.5 | 14.0 | 13.8 | 10.9 | 9.5 | 9.3 | 9.0 | 9.8 | 9.8 |
| Germany, Federal Republic of | 5.9 | 5.3 | 3.0 | 5.8 | 5.4 | 5.2 | 4.7 | 3.7 | 2.9 | 2.8 | 2.6 |
| Ireland[a] | 20.4 | 17.1 | 10.5 | 18.9 | 21.0 | 17.0 | 12.3 | 12.5 | 9.2 | 10.0 | 10.3 |
| Italy | 17.8 | 16.5 | 14.7 | 17.0 | 15.5 | 16.7 | 16.6 | 16.1 | 16.0 | 14.0 | 12.9 |
| Netherlands | 6.7 | 5.9 | 2.8 | 7.0 | 6.4 | 5.7 | 4.6 | 3.2 | 2.6 | 2.5 | 2.8 |
| Norway | 13.6 | 11.3 | 8.4 | 11.8 | 11.1 | 10.9 | 11.6 | 9.8 | 9.0 | 7.8 | 7.2 |
| Sweden | 12.1 | 8.6 | 9.0 | 9.0 | 8.6 | 7.8 | 8.9 | 8.9 | 8.6 | 9.2 | 8.9 |
| Switzerland | 6.5 | 5.6 | 2.9 | 5.3 | 5.9 | 5.6 | 5.8 | 4.8 | 3.5 | 1.8 | 1.8 |
| United Kingdom | 11.9 | 8.6 | 4.6 | 11.1 | 9.4 | 8.0 | 6.2 | 5.0 | 3.8 | 4.6 | 5.1 |
| *West European average*[b] | *11.3* | *9.6* | *7.0* | *10.4* | *10.2* | *9.3* | *8.6* | *7.9* | *6.9* | *6.8* | *6.7* |
| Canada | 12.5 | 10.8 | 5.8 | 11.5 | 11.5 | 10.6 | 9.7 | 7.6 | 5.9 | 5.3 | 4.6 |
| United States | 10.4 | 6.1 | 3.2 | 7.6 | 6.8 | 5.8 | 4.5 | 3.6 | 3.3 | 2.6 | 3.3 |
| Japan | 4.9 | 2.7 | 1.8 | 3.1 | 2.4 | 2.7 | 2.4 | 2.1 | 2.2 | 1.4 | 1.7 |

*Sources*: National statistics, OECD Press Release of mid-February 1984

[a] February, May, August, November, and averages thereof

[b] Unweighted

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[25] "Actual inflation in 1983 was closer to the 4 to 5 per cent range if you take the underlying rate. That would mean the November 1982–1983 consumer price index of 3.2 per cent considerably understates the inflation picture", H. Wallich, *Bondweek*, 16 January 1984.

[26] The standard deviation of the average west European rate of inflation shown in table 1.3.1 has fallen from 3.4 points in the fourth quarter of 1982 to 3.2 points in the fourth quarter of 1983.

may be explained by lagged effects of the October 1982 devaluations.

In 1982 much of the deceleration in inflation rates occurred in the second half of the year and this continued strongly into the first half of 1983: however, the drop in the quarterly rate generally levelled off in the second half of the year. In the first quarter of 1983, under the influence of weak international energy markets and favourable retail food prices, the rate fell in all countries except Ireland and Sweden. In the second quarter, despite the regularly scheduled increases in public tariffs, higher energy taxes in some countries (e.g. the United States and France), a firming of oil spot prices, and an appreciating dollar, inflation fell everywhere and at an accelerating rate due to a sharp fall in non-energy prices. In the third quarter the rate of decline slowed down sharply in most countries and accelerated in others. This was due mostly to the rise in prices of internationally-traded foodstuffs, following drought in North America and elsewhere; after declining steadily for over a year, retail food prices rose sharply. In addition, there were increases in public utility charges and indirect taxes. However non-food retail prices continued to rise more slowly in line with decelerating unit labour costs. In the fourth quarter retail prices of energy fell, but food prices rose, mainly because of seasonal factors.

TABLE 1.3.2

**Change in the implicit price deflator of GDP, 1980–1983**
(*Percentage change over previous year*)

| | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|
| Austria | 5.4 | 6.4 | 6.5 | 3.8 |
| Belgium | 4.3 | 5.3 | 7.0 | 6.0[a] |
| Denmark | 8.9 | 10.5 | 9.8 | 7.5 |
| Finland | 8.8 | 11.7 | 8.9 | 8.5 |
| France | 12.0 | 12.0 | 12.5 | 9.4 |
| Germany, Fed.Rep. of | 4.5 | 4.2 | 4.7 | 3.2 |
| Ireland | 14.4 | 17.4 | 16.1 | 11.0 |
| Italy | 20.6 | 18.3 | 17.5 | 14.7 |
| Netherlands | 5.7 | 5.8 | 5.7 | 1.5[a] |
| Norway | 14.5 | 14.0 | 9.9 | 7.0 |
| Sweden | 11.7 | 9.4 | 8.5 | 9.8 |
| Switzerland | 2.7 | 6.9 | 7.4 | 3.9 |
| United Kingdom | 19.8 | 11.6 | 7.2 | 5.4[b] |
| Canada[a] | 11.1 | 10.6 | 10.1 | 6.2 |
| United States[a] | 9.2 | 9.4 | 6.0 | 4.2 |

*Source*: National statistics.
[a] GNP deflator.
[b] January-September.

Although the disinflation process of the last two years is the outcome of a prolonged and severe recession, inter-country differences in the rate of deceleration in 1983 were also affected by specific measures such as wage and price freezes (e.g. France and Belgium), increases in public sector charges and indirect taxes (almost everywhere), and rent freezes. These various price and income measures to reduce domestic cost pressures help to account for some of the inter-country differences in the development of prices, although their influence in 1983 was probably less than in 1982. While the fall in inflation in 1982 was strongly affected by the collapse of world market prices of primary commodities, in 1983 it reflected the deceleration of unit labour costs, which in turn was due to rising productivity and decelerating average hourly earnings.

The decline in the rate of increase in *average hourly earnings* gained further momentum during 1983, both in western Europe and North America (table 1.3.3). The average rise in 1983 for manufacturing industry is estimated at around 8 per cent, some 2 percentage points less than in 1982 and 3 percentage points less than in 1981. On the basis of data for the first three quarters, annual growth rates of nominal earnings accelerated slightly only in Switzerland and stabilized in Sweden.

TABLE 1.3.3

**Annual and quarterly changes in average hourly earnings in manufacturing industry**
(*Percentage change over corresponding period of previous year*)

| Country | 1981 | 1982 | 1983 | 1982 | | | | 1983 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Q.1 | Q.2 | Q.3 | Q.4 | Q.1 | Q.2 | Q.3 | Q.4 |
| Austria[a] | 6.2 | 6.1 | . . | 8.2 | 7.0 | 5.4 | 4.6 | 3.5 | 5.0 | 5.2 | . . |
| Belgium[b] | 9.4 | 7.4 | . . | 9.5 | 7.4 | 7.4 | 5.5 | 5.4 | 6.1 | 4.5* | . . |
| Denmark[c] | 9.5 | 9.8 | 6.8 | 9.6 | 10.7 | 9.8 | 9.5 | 8.5 | 7.4 | 6.9 | 4.1 |
| Finland | 12.9 | 10.5 | . . | 12.6 | 9.4 | 9.0 | 11.4 | 8.0 | 10.4 | 10.8* | . . |
| France[d] | 14.5 | 15.3 | 11.5 | 16.0 | 18.1 | 16.8 | 12.4 | 12.4 | 10.9 | 10.2 | 12.4 |
| Germany, Federal Republic of[e] | 5.3 | 4.9 | 3.2 | 5.2 | 6.0 | 4.3 | 4.0 | 3.6 | 3.2 | 3.1 | 3.0 |
| Ireland[f] | 16.4 | 14.4 | . . | 14.0 | 14.1 | 13.8 | 15.6 | 13.3 | 10.8 | . . | . . |
| Italy[g] | 23.7 | 17.2 | . . | 20.4 | 17.0 | 15.4 | 16.1 | 15.6 | 14.8 | 14.9 | . . |
| Netherlands[g] | 3.0 | 7.2 | 2.2 | 7.8 | 7.3 | 6.7 | 6.6 | 3.6 | 3.6 | 0.9 | 0.9 |
| Norway[h] | 10.2 | 10.2 | . . | 7.7 | 11.3 | 10.6 | 11.6 | 11.6 | 9.0 | 5.9 | . . |
| Sweden[c] | 10.5 | 7.9 | . . | 8.0 | 9.0 | 7.7 | 6.7 | 9.6 | 7.2 | 7.1 | . . |
| Switzerland[a] [i] | 5.1 | 6.3 | 6.8 | 6.0 | 6.5 | 6.1 | 6.2 | 7.1 | 6.7 | 7.2 | 6.1 |
| United Kingdom[j] | 13.3 | 11.2 | 8.9 | 12.9 | 13.0 | 9.8 | 9.1 | 8.7 | 8.5 | 9.0 | 9.5 |
| Unweighted average (13 countries) | 10.8 | 9.9 | . . | 10.6 | 10.5 | 9.4 | 9.2 | 8.5 | 8.0 | 8.0* | . . |
| Canada | 12.0 | 11.8 | . . | 13.1 | 12.1 | 12.0 | 9.9 | 8.2 | . . | . . | . . |
| United States | 9.9 | 6.4 | 4.0 | 7.9 | 6.8 | 5.9 | 5.0 | 4.3 | 3.9 | 3.5 | 4.3 |

*Source*: National Statistics, and OECD, *Main Economic Indicators*, Paris
[a] Monthly earnings of wage-earners. [b] Industry. Adult male workers. [c] Including mining
[d] Wage rates. Quarterly data, referring to the beginning of January, April, July and October, respectively Annual figures are obtained by averaging the five observations from January of one year to January of the following year
[e] Quarterly data, referring to January, April, July and October
[f] Quarterly data, referring to March, June, September and December
[g] Wage rates. [h] Males only
[i] Data refer to workers who had accidents during the relevant period
[j] Weekly earnings (all employees), Great Britain.

However, while the rate of increase fell in all three quarters for western Europe as a whole, there was some acceleration in the first quarter in Sweden and Switzerland, in the second quarter in Austria, Belgium and Finland, and in the third quarter in Austria, Finland, Switzerland and the United Kingdom. In the other west European countries nominal earnings decelerated throughout the year, most notably in the Netherlands during the third quarter.

Among individual countries the lowest rates of increase in nominal hourly earnings were in the Netherlands, the Federal Republic of Germany and the United States. This was a continuation of the deceleration which began in the second half of 1982 in the Federal Republic of Germany and in the second half of 1981 in the United States. However, in the Netherlands, even though the rate started to fall during the second half of 1982 (after four quarters of marked acceleration), the rate of decline was substantial during the first and third quarters of 1983. In Italy, where an attempt at the end of 1982 to de-index wages from changes in the cost of living had been unsuccessful, the rate of increase in 1983 was the highest in Europe and was more than twice the average rate.

The significant deceleration in nominal wages was due partly to the incomes policies of some governments and, of course, to the weak state of the labour market in most countries. Wage drift was again weak during 1983, due to increased emphasis on job security and the weakening of union power in the face of growing unemployment. In addition to the dampening effect of unemployment on wage deals and wage drift, many governments were implementing some form of incomes policy in 1982 and 1983, examples of which include the following:

- De-indexation of wages from past inflation, with closer links to productivity and profit performance (Belgium, Denmark, France, Italy, the Netherlands, Switzerland and the United States).
- Wage/price freezes (Belgium, the Netherlands and France).
- Increased government intervention in collective bargaining through reduced allowances and fringe benefits (the Netherlands, France and Italy).
- Restrictions on eligibility for unemployment benefits (France, the Federal Republic of Germany and the Netherlands).
- Public sector pay restraint (Canada, Denmark, France, the Federal Republic of Germany, the Netherlands, the United Kingdom and the United States).

In addition to these official measures, increased decentralization of wage negotiations to the enterprise level has weakened nominal earnings growth in industries which have been hit most by the recession.

The growth of *real earnings* in west European manufacturing industry (table 1.3.4), which had recovered somewhat in 1982 after a large deterioration in 1981, improved further in 1983 thanks to the relatively larger deceleration in the rate of price increases. The average year-on-year rate of change (excluding Ireland) was 0.6 per cent in the first quarter and 1.0 and 0.6 per cent in the second and third quarters respectively; these increases follow an average rate of increase of 0.5 per cent in 1982.

On the basis of data for the first three quarters of 1983, real earnings fell only in Belgium and, to a much lesser extent, in Sweden, while in Denmark, the Federal Republic of Germany, Italy, the Netherlands and Norway there was virtually no change. Elsewhere they grew, most strongly in Switzerland (with a strong acceleration) and in the United Kingdom. In Switzerland this was partly due to an acceleration in nominal earnings, but in the United Kingdom it was entirely due to the fall in inflation as nominal earnings growth decelerated strongly. In the United States the growth of real earnings also accelerated despite a sharp deceleration in the rate of growth of nominal earnings, thanks to the rapid deceleration in price inflation. In Belgium the sharp fall in real earnings was due to a significant deceleration in the growth of nominal earnings combined with only a small increase in the rate of inflation, while in Sweden the decline was due to the increased rate of inflation.

*Unit labour costs*, for the whole economy, continued to decelerate strongly in 1983 (table 1.3.5). In western Europe they increased on average by 5.8 per cent (excluding

TABLE 1.3.4

**Changes in real hourly earnings in manufacturing industry**
(*Percentage change over corresponding period of previous year*)

| Country | 1981 | 1982 | 1983 | 1982 Q.1 | 1982 Q.2 | 1982 Q.3 | 1982 Q.4 | 1983 Q.1 | 1983 Q.2 | 1983 Q.3 | 1983 Q.4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria[a] | −0.6 | 0.7 | .. | 2.1 | 1.0 | 0.2 | −0.1 | −0.4 | 2.2 | 2.0 | .. |
| Belgium[b] | 1.7 | −1.2 | .. | 1.8 | −1.7 | −1.6 | −3.1 | −3.0 | −1.4 | −2.9* | .. |
| Denmark[c] | −2.0 | −0.3 | −0.1 | −1.8 | 1.1 | 0.2 | −0.4 | — | −0.1 | 0.8 | −1.4 |
| Finland | 0.8 | 0.8 | .. | 2.1 | −0.9 | −0.5 | 3.1 | 0.1 | 2.4 | 2.1 | .. |
| France[d] | 1.0 | 3.1 | 1.8* | 1.8 | 3.8 | 5.3 | 2.6 | 2.8 | 1.7 | 0.4 | 2.4 |
| Germany, Federal Republic of | −0.6 | −0.4 | 0.2 | −0.6 | 0.6 | −0.9 | −0.7 | −0.1 | 0.3 | 0.3 | 0.4 |
| Ireland[f] | −3.3 | −2.3 | .. | 4.1 | −5.7 | −2.7 | 2.9 | 0.7 | 1.5 | .. | .. |
| Italy[g] | 5.0 | 0.6 | .. | 2.9 | 1.3 | −1.1 | −0.4 | −0.4 | −1.0 | 0.8 | .. |
| Netherlands[g] | −3.5 | 1.2 | −0.6 | 0.7 | 0.8 | 0.9 | 1.9 | 0.4 | 1.0 | −1.6 | −1.8 |
| Norway[h] | −3.0 | −1.0 | .. | −3.7 | 0.2 | −0.3 | — | 1.6 | — | −1.8 | .. |
| Sweden[c] | −1.4 | −0.6 | .. | −0.9 | 0.4 | −0.1 | −2.0 | 0.6 | −1.3 | −1.9 | .. |
| Switzerland[a i] | −1.3 | 0.7 | 3.8 | 0.7 | 0.6 | 0.5 | 0.4 | 2.2 | 3.1 | 5.3 | 4.2 |
| United Kingdom[j] | 1.3 | 2.4 | 4.1 | 1.6 | 3.3 | 1.7 | 2.7 | 3.5 | 4.5 | 4.2 | 4.2 |
| Unweighted average (13 countries) | −0.4 | 0.3 | .. | 0.2 | 0.3 | 0.1 | 0.6 | 0.6 | 1.0 | 1.2* | .. |
| Canada | −0.4 | 0.9 | .. | 1.4 | 0.5 | 1.3 | 0.2 | 0.6 | .. | .. | .. |
| United States | −0.5 | 0.3 | 0.8 | 0.3 | — | 0.1 | 0.5 | 0.7 | 0.6 | 0.9 | 1.0 |

*Sources and footnotes*: As for tables 1.3.1 and 1.3.3.

*Note*: The change in real earnings is the change in money earnings deflated by the corresponding change in the consumer price index

Switzerland) compared with 7.8 per cent in 1982 and 10.6 per cent in 1981. There are, however, large inter-country differences in the rate of increase, ranging from zero in the Netherlands to 16.0 per cent in Italy. They accelerated only in Sweden, due to a faster growth in the compensation of employees.

The deceleration in unit labour costs in 1983 was due to a combination of accelerating productivity growth and lower rates of increase in earnings per worker. The relative importance of these two factors varied between countries: in France and Belgium the improvement was mainly due to faster productivity growth; in Italy there was actually a fall in productivity but this was offset by a lower rate of growth of earnings. The deceleration in unit labour costs was greatest in the Netherlands and the Federal Republic of Germany where large productivity gains were accompanied by a sharp deceleration in average hourly earnings. The combination of large gains in productivity and a sharp fall in the growth of earnings was also behind the deceleration of unit labour costs in Denmark and Ireland.

In North America the fall in the growth of unit labour costs was much greater than in western Europe. In Canada the fall was very large due to a 3 per cent increase in productivity and a slower growth in earnings. In the United States labour costs also decelerated but more modestly than in Canada: productivity rose 2 per cent and there was a sharp deceleration in earnings.

The growth of the *real product wage* (growth of unit labour costs for the whole economy deflated by the GDP deflator) was negative in all countries of western Europe and North America except Italy. This indicates the important role played by labour cost and productivity developments in the improvement of profit margins in 1983. The latter had been falling steadily for a decade or so until 1983. (In 1982 there had also been some improvement in profit margins but it was not universal and was much smaller than in 1983.)

The decline in *primary product prices* finally came to an end in 1983. The HWWA index[27] of market prices (in US dollars) of raw materials fell by about 8.5 per cent in 1983 after a drop of 5 per cent in 1982 (table 1.3.6). However, this decline was

TABLE 1.3.5

**Unit labour costs[a] for the whole economy**
(*Percentage change over previous year*)

| | 1981 | 1982 | 1983[b] |
|---|---|---|---|
| Austria | 8.4 | 3.4 | 2.5 |
| Belgium | 6.0 | 4.7 | 3.5 |
| Denmark | 9.1 | 8.3 | 5.5 |
| Finland | 13.7 | 7.7 | 7.0 |
| France | 13.3 | 11.9 | 9.5 |
| Germany, Fed.Rep. of | 4.8 | 3.3 | 0.5 |
| Ireland | 17.3 | 12.1 | 9.5 |
| Italy | 20.6 | 17.4 | 16.0 |
| Netherlands | 2.6 | 4.4 | — |
| Norway | 11.9 | 10.5 | 4.5 |
| Sweden | 9.2 | 5.2 | 6.5 |
| Switzerland | 6.9 | 8.7 | .. |
| United Kingdom | 9.9 | 4.6 | 4.5 |
| Canada | 11.6 | 12.4 | 3.0 |
| United States | 7.8 | 7.5 | 3.5 |

*Source:* National statistics.
[a] Compensation of employees per unit of real GDP or GNP.
[b] Preliminary figures and secretariat estimates rounded to nearest 0.5 percentage point.

TABLE 1.3.6

**Changes in the prices of raw materials and intermediate goods**
(*Percentage change over corresponding period of preceding year*)

| | 1980 | 1981 | 1982 | 1983 | 1982 | | | | 1983 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| A. *World market price of raw materials* | | | | | | | | | | | | |
| All items: | | | | | | | | | | | | |
| incl. energy | 48.0 | 6.5 | −5.0 | −8.4 | −3.9 | −4.7 | −4.9 | −6.6 | −5.7 | −11.0 | −8.9 | −8.3 |
| excl. energy | 13.7 | −13.9 | −13.3 | 4.4 | −16.1 | −11.5 | −12.5 | −12.5 | −7.9 | 0.5 | 11.4 | 15.3 |
| Food | 15.4 | −16.2 | −15.9 | 10.1 | −21.2 | −15.2 | −14.2 | −11.6 | −8.3 | 5.1 | 21.3 | 25.0 |
| Industrial materials | 12.6 | −12.4 | −11.4 | 0.8 | −12.4 | −9.1 | −11.4 | −13.0 | −7.6 | −2.3 | 5.2 | 9.0 |
| Energy | 65.1 | 13.6 | −2.9 | −11.5 | −0.4 | −2.8 | −3.0 | −5.2 | −5.1 | −13.8 | −13.6 | −13.5 |
| B. *National intermediate goods prices* | | | | | | | | | | | | |
| Austria | 16.2 | 15.2 | 3.8 | −1.1 | 9.6 | 5.6 | 1.3 | −0.6 | −0.9 | −3.4 | −1.0 | 1.0 |
| Belgium | 8.0 | 8.3 | 8.6 | $5.2^{N}$ | 10.4 | 10.0 | 7.5 | 6.7 | 3.9 | 3.7 | 6.0 | $8.3^{N}$ |
| Denmark | 23.0 | 18.1 | 10.2 | $4.8^{N}$ | 13.4 | 8.5 | 8.3 | 11.3 | 5.9 | 4.1 | 5.0 | $4.0^{N}$ |
| Finland | 19.0 | 15.6 | 6.4 | 3.4 | 11.3 | 6.4 | 4.4 | 4.0 | 3.0 | 2.5 | 4.3 | 3.7 |
| France | 8.8 | 11.0 | 11.1 | 11.0 | 14.3 | 12.3 | 9.7 | 8.5 | 8.2 | 9.6 | 11.7 | 14.4 |
| Germany, Fed.Rep.of | 14.0 | 11.6 | 3.4 | $-0.5^{O}$ | 7.3 | 3.6 | 0.8 | 2.2 | −1.0 | −1.0 | 0.4 | $0.1^{O}$ |
| Ireland | 14.0 | 12.6 | 7.9 | $6.3^{J}$ | 8.7 | 7.7 | 7.9 | 7.3 | 5.7 | 6.6 | $7.5^{J}$ | .. |
| Italy | 22.8 | 18.1 | 12.9 | $7.9^{O}$ | 17.3 | 12.7 | 11.2 | 10.8 | 8.2 | 7.7 | 7.5 | $8.6^{O}$ |
| Netherlands | 19.5 | 20.0 | 4.7 | $-2.0^{N}$ | 13.8 | 4.5 | 0.3 | 1.3 | −4.0 | −3.0 | −1.1 | $1.2^{N}$ |
| Norway | 28.8 | 17.6 | 7.0 | 7.5 | 8.2 | 2.7 | 5.9 | 10.2 | 7.9 | 9.1 | 7.1 | 4.5 |
| Sweden | 16.7 | 11.0 | 13.7 | 11.1 | 14.5 | 13.3 | 11.5 | 15.1 | 11.8 | 12.2 | 13.9 | 7.5 |
| Switzerland | 5.8 | 6.2 | 2.3 | −0.7 | 4.7 | 3.1 | 1.5 | 0.2 | −1.2 | −1.1 | −0.6 | 0.1 |
| United Kingdom | 8.5 | 9.2 | 7.3 | 7.0 | 13.2 | 7.6 | 4.8 | 4.0 | 5.6 | 6.7 | 8.1 | 7.5 |
| Canada | 14.5 | 19.2 | 8.3 | $5.4^{N}$ | 11.6 | 9.9 | 6.9 | 5.1 | 6.4 | 5.8 | 4.0 | $5.3^{N}$ |
| United States | 13.4 | 7.7 | 1.3 | 1.2 | 3.6 | 2.0 | −0.0 | −0.3 | −0.2 | 0.4 | 2.0 | 2.7 |

*Sources:* National statistics. For definitions of national indices see *Economic Survey of Europe in 1982*, p. 32, except for Sweden: Domestic supply price index; aggregate (by secretariat) of following series: Paper and cardboard, Chemical, petroleum, rubber and plastic products, Non-metallic minerals, Basic metals, metal products (other than machinery and equipment).
*Note:* J = January–July or July. O = January–October or October. N = January–November or October–November.

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[27] The HWWA (Hamburg) index weights world market prices by the relevant product shares in total imports of western industrialized countries in 1974–1976.

entirely due to falling energy prices (-11 per cent), which have a weight of 63 per cent in the total index. The total index *excluding* energy materials rose by about 4.5 per cent after a decline of 13 per cent in 1982.

The erosion of *industrial materials prices* was stopped in 1983, after declines in 1981 and 1982 of 12 and 11 per cent respectively. The average level in 1983 was about 1 per cent higher than in 1982. The prices of primary foodstuffs rose by 10 per cent after a decline of about 16 per cent in each of the two preceding years.

Given the further devaluation of European currencies vis-à-vis the US dollar in 1983, price increases in terms of national currencies were somewhat larger and the price decrease for energy less pronounced.

Section B of table 1.3.6 shows changes in *intermediate goods prices* in west European countries and North America. These changes are expressed in national currencies and the coverage of goods is more comprehensive (processed materials are also included) than the raw materials price index in section A. It can be seen that intermediate goods prices generally tended to decelerate, thus continuing a process that had started in 1982. Only in France, Norway, Sweden and the United Kingdom was there no marked change compared with the rate of increase in 1982.

Changes in *final output prices* are given in table 1.3.7. The general tendency was for a lower rate of increase in 1983 as compared with 1982. However, as in the case of intermediate goods prices, there is a considerable spread in the rate of increase, from 0.6 per cent in Austria to 12 per cent in Italy.

The effect of changes in intermediate goods prices on industrial profit margins in 1983 can be broadly gauged by comparing changes in input and output prices. In eight of the 15 countries output prices tended to rise somewhat faster than intermediate goods prices, though the differences are in general rather small. The same applies to the remaining countries for which intermediate goods prices rose somewhat faster than output prices. This suggests that in general the relative movements of input and output prices do not appear to have had a significant impact on profit margins in 1983.

Some idea of the relative importance of the various factors behind the rate of inflation can be obtained by breaking down the rise in the price of total final expenditure into its separate components. This is essentially an accounting exercise and cannot itself say anything about the *causes* of inflation. The results of this calculation are shown in table 1.3.8.

The contribution of the various components to the overall rise in prices varies considerably between countries, but as in 1982 the general deceleration of earnings growth is apparent. The contribution of wages to the total price increase continued to fall during 1983 in all countries except France and Sweden (in fact Sweden was the only country where the growth of wage costs accelerated). In Austria and the Federal Republic of Germany the fall in the wage contribution in 1983 was very large and in the Netherlands it was negative. In all countries except Switzerland and France the relative contribution of wages to the increase in prices was smaller than its share in total expenditure, especially in the Federal Republic of Germany and the United Kingdom. While weaker pressure from wage costs accounts for a large proportion of the overall deceleration, import prices (in national currency) provided a significant offset to the fall in domestic inflation in the majority of countries, mainly because of changes in the exchange rate (this was particularly so in Belgium and the Netherlands). They contributed to the overall deceleration only in the Federal Republic of Germany and, to a lesser extent, in France and Sweden.

Gross trading profits (other factor incomes) per unit of final output improved markedly in most countries in 1983 and this is reflected in an increased contribution of this factor to the rise in prices, particularly in the Federal Republic of Germany, the Netherlands and the United Kingdom, where inflation in 1983 might be loosely characterized as "profit push". This source of pressure on prices will probably continue given the historically low levels of profits that now exist in western Europe.

Table 1.3.9 disaggregates the contribution of imports to the rise in prices into its dollar price and exchange rate components; an additional contribution comes from the change in import shares (i.e. the weight of imports in total final expenditure) which is derived here as a residual. For the third year running the change in the dollar price of imports was significantly negative for all the west European countries in 1983: this was due, despite some recovery during the year, to

TABLE 1.3.7

**Changes in final output prices of manufacturing industry**

*(Percentage changes over corresponding period of preceding year)*

| | | | | | 1982 | | | | 1983 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1980 | 1981 | 1982 | 1983 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Austria | 8.6 | 8.1 | 3.1 | 0.6 | 5.6 | 5.5 | 1.6 | 0.2 | 0.4 | −1.8 | 0.9 | 3.0 |
| Belgium | 5.3 | 6.6 | 6.9 | $3.3^{N}$ | 7.1 | 7.7 | 6.7 | 6.4 | 4.5 | 3.1 | 2.9 | $2.7^{N}$ |
| Denmark | 14.5 | 13.3 | 10.6 | $5.6^{N}$ | 13.5 | 10.7 | 9.4 | 9.8 | 6.2 | 5.2 | 5.6 | $5.4^{N}$ |
| Finland | 14.6 | 11.8 | 7.7 | 6.4 | 9.7 | 7.8 | 6.2 | 7.2 | 6.6 | 6.3 | 7.1 | 5.9 |
| France | 16.3 | 12.8 | 11.5 | 8.8 | 12.8 | 13.0 | 10.2 | 9.9 | 9.0 | 8.8 | 9.3 | 8.7 |
| Germany, Federal Republic of | 7.0 | 6.0 | 4.8 | 1.5 | 6.2 | 5.1 | 4.2 | 3.9 | 1.9 | 1.2 | 1.2 | 1.6 |
| Ireland | 10 9 | 16.7 | 11.9 | $6.4^{J}$ | 15.2 | 12.7 | 10.6 | 9.2 | 7.3 | 5.6 | $6.4^{J}$ | .. |
| Italy | 17.5 | 17 0 | 14.8 | $12.2^{O}$ | 16.6 | 14.2 | 14.6 | 14.0 | 13.3 | 12.7 | 11.3 | $10.7^{O}$ |
| Netherlands | 8.2 | 9.2 | 6.6 | $1.8^{N}$ | 8.6 | 7.5 | 5.7 | 4.7 | 2.0 | 1.3 | 1.9 | $1.8^{N}$ |
| Norway | 12.3 | 9.9 | 7.0 | 5.6 | 8.2 | 5.7 | 5.2 | 6.5 | 5.4 | 6.0 | 6.2 | 5.5 |
| Sweden | 12.9 | 10.0 | 12.0 | 11.0 | 12.8 | 12.3 | 11.0 | 11.9 | 10.6 | 10.9 | 12.2 | 10.0 |
| Switzerland | 4.4 | 5.6 | 3.7 | 1.1 | 4.7 | 4.3 | 3.7 | 2.0 | 1.3 | 0.8 | 1.0 | 1.4 |
| United Kingdom | 14.0 | 9.5 | 7.8 | 5.4 | 9.5 | 7.7 | 7.4 | 6.5 | 5.3 | 5.6 | 5.4 | 5.5 |
| Canada | 13.4 | 10.2 | 6.0 | $3.4^{N}$ | 7.3 | 6.9 | 5.5 | 4.5 | 3.7 | 3.3 | 3.4 | $3.3^{N}$ |
| United States | 13.5 | 9 2 | 4.0 | 1.6 | 5.4 | 3.3 | 3.7 | 3.7 | 2.2 | 2.1 | 1.4 | 0.9 |

[illegible] *Economic Survey of Europe in 1982*, p 33, except for USA Producer price index, Total finished goods

[illegible] January November or October + November

TABLE 1.3.8

**Factors contributing to the total rise in final output prices, 1979–1983**
*(Percentage change on previous year)*

| | | Rise in final output prices[a] | of which due to: | | | |
|---|---|---|---|---|---|---|
| | | | Wage costs[b] | Other factor incomes[c] | Net taxes on expenditure | Import costs |
| Austria | 1979–1982 | 5.92 | 1.65 | 1.53 | 0.50 | 2.25 |
| | 1982 | 5.20 | 1.70 | 2.97 | 0.68 | −0.15 |
| | 1983 | 2.35 | 0.49 | —— 1.38 —— | | 0.48 |
| Belgium | 1979–1982 | 7.84 | 1.75 | 0.88 | 0.32 | 4.91 |
| | 1982 | 9.51 | 1.88 | 2.00 | 0.50 | 5.13 |
| | 1983 | 7.44 | 1.28 | 1.81 | 0.48 | 3.88 |
| Finland | 1979–1982 | 9.85 | 4.65 | 2.06 | 0.79 | 3.10 |
| | 1982 | 7.87 | 3.35 | 2.69 | 0.89 | 0.94 |
| | 1983 | 8.34 | 3.02 | 2.81 | 0.80 | 1.71 |
| France | 1979–1982 | 12.01 | 5.09 | 2.51 | 1.29 | 3.13 |
| | 1982 | 12.14 | 5.08 | 3.02 | 1.43 | 2.62 |
| | 1983 | 8.94 | 4.42 | —— 3.30 —— | | 1.22 |
| Germany, Fed. Rep. of | 1979–1982 | 5.15 | 1.76 | 0.81 | 0.35 | 2.24 |
| | 1982 | 4.19 | 1.32 | 1.72 | 0.25 | 0.91 |
| | 1983 | 2.39 | 0.24 | 2.03 | 0.40 | −0.28 |
| Netherlands | 1979–1982 | 7.02 | 1.80 | 1.62 | 0.18 | 3.42 |
| | 1982 | 4.35 | 1.35 | 1.70 | 0.01 | 1.29 |
| | 1983 | 1.29 | −0.18 | 0.71 | 0.07 | 0.69 |
| Sweden | 1979–1982 | 10.44 | 3.78 | 2.60 | 0.63 | 3.43 |
| | 1982 | 9.80 | 2.11 | 3.43 | 0.27 | 4.00 |
| | 1983 | 10.87 | 3.63 | 2.57 | 1.42 | 3.26 |
| Switzerland | 1979–1982 | 4.98 | 2.23 | 0.91 | 0.15 | 1.69 |
| | 1982 | 5.23 | 3.99 | 1.52 | 0.16 | −0.44 |
| | 1983 | 2.50 | 1.65 | —— 0.06 —— | | 0.78 |
| United Kingdom | 1979–1982 | 12.24 | 5.49 | 2.57 | 2.13 | 2.06 |
| | 1982 | 7.23 | 1.62 | 2.63 | 1.39 | 1.59 |
| | 1983[d] | 6.14 | 1.11 | 3.79 | −0.26 | 1.50 |

*Source*: National statistics

[a] Market prices of home produced and imported goods and services available for private and public consumption, investment and export (i.e. the implicit deflator of total final expenditure)

[b] Incomes from employment

[c] Gross profits and other trading income and, usually, self-employment income, before provision for depreciation

[d] January June 1983 over January-June 1982

weak price trends for oil and non-oil commodities and for manufactured products.

The favourable effect of lower dollar prices, however, was offset by the continuing depreciation of most European currencies against the US dollar. In the Netherlands the contribution of exchange rate depreciation to the increase in final output prices was significantly larger than the total rise in prices. In Belgium, the United Kingdom and Sweden it was larger than the sum of all the domestic components (by more than two-thirds) while in Austria and Finland it was more than half. Nevertheless, the total contribution of imports to the rise in domestic prices between 1982 and 1983 rose only in Austria and Finland (in the former an increase in import shares also contributed to the rise in final output prices). Import shares in total final output, which generally fell during 1983, increased only in Austria and Switzerland.

Comparing 1983 with the average for 1979–1982, it can be seen that wage inflation has remained the most important component of the rise in prices only in Finland, France, Sweden and Switzerland. In these countries the contribution of wages to the total price increase was around 40 per cent in 1979–1982 and it was still around or above this proportion in 1983. However, a more important feature of the data for the 1979–1982 period is that in Austria, Belgium, the Federal Republic of Germany and the Netherlands, it was the change in import prices in national currency which contributed most to the acceleration of inflation after the second oil price shock. This inflationary pressure from imports was due to a combination of higher dollar prices combined with larger import shares in 1979 and 1980 and, since 1981, depreciating European exchange rates against the dollar. It is this last development which has largely mitigated the effects on western Europe of the subsequent decline in the world market prices of oil and other commodities.

The widespread improvement in business profits in 1983 is clearly reflected in the increase of the share of profits in total factor incomes. As noted in the discussion of real product wages, profit margins decreased only in Italy and levelled off in France; the largest increases were in the United States, Canada, the United Kingdom and the Federal Republic of Germany. According to the United States Department of Commerce, corporate profits increased by 12.3, 20.0 and 12.8 per cent respectively in the first three quarters of 1983 (percentage changes from the preceding quarter). According to an unofficial source, corporate profits (afer tax) in the fourth quarter were 64 per cent higher than in the fourth quarter of 1982.[28] In the United Kingdom, according to estimates made

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[28] *Wall Street Journal*, 21 February 1984

TABLE 1.3.9

**Contribution of imports to the rise in final output prices, 1979–1983**
*(Percentage change on previous year)*

| | Total contribution of imports to rise in prices[a] | of which due to | | | |
|---|---|---|---|---|---|
| | | Import prices in national currency | of which: | | Change in import penetration[b] |
| | | | Import prices in US dollars | Change in exchange rate | |
| **Austria** | | | | | |
| 1979 | 2.67 | 1.51 | 3.88 | −2.37 | 1.16 |
| 1980 | 3.45 | 2.56 | 3.56 | −0.99 | 0.89 |
| 1981 | 3.02 | 2.95 | −3.03 | 5.98 | 0.07 |
| 1982 | −0.15 | 0.58 | −1.44 | 2.01 | −0.73 |
| 1983 | 0.48 | −0.35 | −1.40 | 1.05 | 0.83 |
| **Belgium** | | | | | |
| 1979 | 4.61 | 3.01 | 5.77 | −2.76 | 1.60 |
| 1980 | 4.65 | 4.91 | 5.02 | −0.11 | −0.26 |
| 1981 | 5.23 | 5.32 | −3.98 | 9.30 | −0.09 |
| 1982 | 5.13 | 5.36 | −3.18 | 8.54 | −0.23 |
| 1983 | 3.88 | 3.83 | −0.33 | 4.16 | 0.05 |
| **Finland** | | | | | |
| 1979 | 4.68 | 3.18 | 4.57 | −1.39 | 1.50 |
| 1980 | 4.99 | 3.83 | 5.05 | −1.22 | 1.16 |
| 1981 | 1.80 | 3.00 | −0.92 | 3.92 | −1.20 |
| 1982 | 0.94 | 1.18 | −1.55 | 2.73 | −0.24 |
| 1983 | 1.71 | 1.91 | −1.40 | 3.30 | −0.20 |
| **France** | | | | | |
| 1979 | 2.81 | 1.67 | 2.75 | −1.08 | 1.14 |
| 1980 | 3.89 | 2.90 | 3.04 | −0.14 | 0.99 |
| 1981 | 3.21 | 2.99 | −1.83 | 4.82 | 0.22 |
| 1982 | 2.62 | 2.06 | −1.66 | 3.72 | 0.55 |
| 1983 | 1.22 | 1.41 | −1.17 | 2.58 | −0.19 |
| **Germany, Fed. Rep. of** | | | | | |
| 1979 | 2.57 | 1.58 | 3.60 | −2.02 | 0.98 |
| 1980 | 2.93 | 2.58 | 2.78 | −0.20 | 0.35 |
| 1981 | 2.55 | 2.22 | −2.64 | 4.86 | 0.34 |
| 1982 | 0.91 | 0.55 | −1.13 | 1.67 | 0.36 |
| 1983 | −0.28 | −0.04 | −0.92 | 0.89 | −0.24 |
| **Netherlands** | | | | | |
| 1979 | 4.18 | 3.38 | 6.08 | −2.70 | 0.80 |
| 1980 | 4.49 | 4.81 | 5.15 | −0.34 | −0.32 |
| 1981 | 3.73 | 5.46 | −2.69 | 8.15 | −1.73 |
| 1982 | 1.29 | 0.65 | −1.70 | 2.35 | 0.64 |
| 1983 | 0.69 | 1.23 | −0.65 | 1.87 | −0.54 |
| **Sweden** | | | | | |
| 1979 | 4.82 | 3.41 | 4.75 | −1.34 | 1.41 |
| 1980 | 3.14 | 3.39 | 3.76 | −0.37 | −0.25 |
| 1981 | 1.74 | 2.77 | −1.65 | 4.42 | −1.03 |
| 1982 | 4.00 | 3.19 | −1.98 | 5.17 | 0.81 |
| 1983 | 3.26 | 3.51 | −1.45 | 4.96 | −0.26 |
| **Switzerland** | | | | | |
| 1979 | 2.58 | 1.82 | 3.81 | −1.99 | 0.76 |
| 1980 | 3.82 | 3.32 | 3.09 | 0.23 | 0.50 |
| 1981 | 0.81 | 1.36 | −3.06 | 4.42 | −0.55 |
| 1982 | −0.44 | −0.20 | −1.10 | 0.90 | −0.24 |
| 1983 | 0.78 | −0.09 | −0.74 | 0.65 | 0.88 |
| **United Kingdom** | | | | | |
| 1979 | 3.36 | 1.84 | 4.29 | −2.45 | 1.52 |
| 1980 | 1.94 | 2.16 | 4.48 | −2.32 | −0.22 |
| 1981 | 1.35 | 1.56 | −1.24 | 2.80 | −0.22 |
| 1982 | 1.59 | 1.47 | −1.40 | 2.87 | 0.12 |
| 1983[c] | 1.50 | 1.79 | −1.47 | 3.26 | −0.29 |

*Source*: As for table 1.3.8 and IMF, *International Financial Statistics*, Washington D.C

[a] Last column of previous table

[b] Change in total import costs *minus* the change in import prices in national currency

[c] January–June 1983 over January–June 1982

by the Bank of England,[29] industrial and commercial company sector profits rose by nearly 35 per cent between the first half of 1982 and the first half of 1983 and this trend appears to have accelerated in the third quarter. However, as the Bank of England points out, profits are still lower not only than in the 1960s but also than in 1978. Also in the United States the great improvement in profit margins largely reflects the fact that in 1982 profits were at their lowest levels for many years. These profit gains are also partly due to the lowering of break-even points in a number of industries, such as automobiles, farm equipment and machinery.[30] Some of the large profits gains were in the cyclically sensitive sectors such as chemicals, machinery and construction which were all big losers during the recession. Finally, after-tax profits in the United States, which is the most publicized figure for profits and which has increased much more dramatically than before-tax profits, were boosted by increased depreciation allowances in 1983. However, despite all these rather special factors which have raised profits, they should not be allowed to overshadow the role of lower labour and material costs, increased labour productivity and the rapid recovery of consumer demand.

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[29] Bank of England, *Quarterly Bulletin*, December 1983

Higher profits and a lower wage bill have raised the share of profits virtually everywhere, but *rates of return* are unlikely to have recovered and are probably still below the rates prevailing prior to the second oil shock – this reflects low capital productivity due to the large margins of unused capacity which still exist in many sectors. However, if the recovery continues to strengthen there will eventually be a need for further investment and current profitability is probably below the levels required to maintain a significant rate of investment. The continuation and further strengthening of the present improvement will depend on the future relative movement of wage and non-wage costs and on the pace and durability of the recovery of domestic and foreign demand.

To boost profits and stimulate investment several countries have formulated new policies concerning company taxes and allowances. For example, at the end of 1983 in the Federal Republic of Germany the government introduced tax reliefs and special depreciation allowances for small- and medium-sized enterprises in order to boost equity financing, stimulate investment and improve competitiveness. In the Netherlands the government plans to reduce profit taxes in 1984. Similar action has been taken in the United States and in several of the smaller west European economies. In contrast to this general softening of the fiscal pressure on the business sector, continued recession, high inflation and a huge budget deficit have forced the Italian government to propose, in the 1984 budget, an increase in the corporate income tax rate from 30 to 36 per cent.

The marked improvement in corporate profitability has received considerable attention. Although it is a welcome development, it has to be seen in the context of a long-run trend of falling *profits and profitability*. Clearly there is a strong cyclical element in the present upturn and it is premature to conclude that there has been a reversal of this long-run trend.

Low and declining profitability in the industrial sectors of the western market economies is a subject of concern to policy makers and of increasing interest to academic analysts. Among the latter there is some disagreement, particularly in the United States, as to whether or not the decline in rates of return in the 1970s represents a fundamental shift or a temporary decline. While the majority of studies of this question conclude that the observed decline reflects a significant long-run falling trend in the rate of return to capital,[31] a number of economists argue that in the United States at least, the decline in the 1970s is more likely to have been the result of transitory disturbances.[32] A study of profit shares and rates of return for 10 developed market economy countries between 1955–1976 concluded that profitability displayed a small but systematic tendency to decline.[33] The downward trend was more pronounced for the European countries than for Canada and the United States. An updating of this latter study also concluded that "measurement difficulties aside, however, there is a general secular decline in profitability which is not well understood".[34]

Average profit shares and rates of return are shown in table 1.3.10 for 1960–1972 and 1973–1982 for 12 market economies in the ECE region.[35]

It will be seen that changes in net and gross shares, and net and gross rates of return, are not very different from each other. In general, gross shares and rates of return are conceptually simpler and statistically more reliable as they eliminate the biases which are introduced by the problems involved in the measurement of capital consumption.

Profitability can be measured by rates of return or profit shares. The rate of return is preferred since it takes into account not only the profits on a given output but also the capital intensity of the production process. However, because of the practical and conceptual difficulties involved in accurately measuring capital employed, the share of profits in value added is most commonly used since there are fairly reliable statistics available to measure it.

Table 1.3.10 indicates a general decline in profitability after

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[30] For example, the Chairman of International Harvester has said that the company's improved performance came partly from the past 18 months' restructuring, which has reduced the break-even level by about half in volume terms compared with 1981 (*Financial Times*, 17 February 1984); the Ford Company management claims to have decreased overheads by $3 billion since 1979, thereby starting to make profits on an output of 2.5 million vehicles in 1983 as against 4.2 million in 1979 (*Financial Times*, 12 January 1984).

[31] For example, among many see W.D. Nordhaus, "The Falling Share of Profits", *Brookings Papers on Economic Activity*, 1:1974; R.W. Kopcke, "The Decline in Corporate Profitability", Federal Reserve Bank of Boston, *New England Economic Review*, May–June 1978; Andrew Glyn and Bob R. Sutcliffe, *British Capitalism, Workers and the Profits Squeeze*, Penguin, 1972, London; M. Panić and R.E. Close, "Profitability of British Manufacturing Industry", *Lloyds Bank Review*, April 1974; G.J. Burgess and A.J. Webb, "Rates of Return and Profit Shares in the United Kingdom", *Lloyds Bank Review*, April 1974; M.A. King, "The United Kingdom Profits Crises: Myth or Reality?", *The Economic Journal*, vol.85, March 1975.

[32] See for example: M. Okun, G.L. Perry, "Notes and Numbers on the Profits Squeeze", *Brookings Papers on Economic Activity*, No.3:1970; M.S. Feldstein and L. Summers, "Is the Rate of Profit Falling?", *Brookings Papers on Economic Activity*, No. 1:1977; D.M. Holland, S.C. Myers, "Trends in Corporate Profitability and Capital Costs", *MIT Working paper 999–78*, 1978; B.M. Fraumeni and D.M. Jorgenson, "Rates of Return by Industrial Sector in the United States, 1978–1976", *American Economic Review*, vol.7, No.7, May 1980; M. Feldstein, L. Dicks-Mireaux, J. Poterba, "The Effective Tax Rate and the pre-Tax Rate of Return", *Journal of Public Economics*, No.21, 1983.

[33] T.P. Hill, *Profits and Rates of Return*, OECD, Paris, 1979.

[34] OECD, *Economic Outlook*, 33, Paris, July 1983, p.57.

[35] Profitability is measured by profit shares (in value added) and rates of return to capital (ratio of profits to total capital stock), both as gross and net. An important limitation to the analysis of profit shares and rates of return is the absence of reliable, consistent and up-to-date statistics. There are also important conceptual and measurement problems in assessing depreciation and withdrawals from the capital stock. Table 1.3.9 is based on national accounts data and, therefore, on the national accounts definition of profits, namely operating surplus. Compared to company accounts, national accounts data have two main drawbacks: the estimates of capital stock are incomplete because they exclude land and inventories, while the operating surplus includes the return on both items. This difference between the denominator and numerator will bias the estimates and may affect the degree of comparability between countries and over time. However, national accounts are the only readily available source of (broadly) internationally comparable data. Operating surplus includes the trading profits of private enterprises, the trading surpluses of public corporations, income from self-employment and rent; it is also measured before deduction of interest and corporate or income taxes, and stock appreciation is excluded. Operating surplus is measured at current prices since the intention is to measure the profits from current production. Net operating surplus excludes capital consumption at replacement (current) cost. Capital stock estimates are based on the perpetual inventory method which involves accumulating past investments in fixed assets; measured net, they allow for accumulated capital consumption at replacement cost.

TABLE 1.3.10

**Profit shares and rates of return in total manufacturing industry in 12 western industrialized countries, 1960–1972 and 1973–1982**
(*Percentages*)

| | Profit shares | | | | Rates of return | | | |
|---|---|---|---|---|---|---|---|---|
| | Gross | | Net | | Gross | | Net | |
| | 1960–1972 | 1973–1982 | 1960–1972 | 1973–1982 | 1960–1972 | 1973–1982 | 1960–1972 | 1973–1982 |
| Belgium | 35.3 | 23.7 | .. | .. | .. | .. | .. | .. |
| Denmark | 26.6[a] | 24.6 | .. | .. | .. | .. | .. | .. |
| Finland | 37.9 | 35.3 | 25.5 | 26.6 | .. | 12.6[b] | .. | 13.8[b] |
| France | 39.7 | 33.7[c] | .. | .. | 20.0 | 15.8[d] | .. | .. |
| Germany, Fed. Rep. of | 35.5 | 28.8 | 29.0 | 19.7 | 21.2 | 14.6 | 24.9 | 15.8 |
| Ireland | .. | 31.6[d] | .. | .. | .. | .. | .. | .. |
| Italy | 37.7 | 34.0 | .. | .. | .. | .. | .. | .. |
| Norway | 28.3 | 28.6 | 20.0 | 20.0 | .. | .. | .. | 9.2[d] |
| Sweden | 27.3[e] | 22.7 | 20.4[e] | 13.0 | 10.6[f] | 7.3[d] | .. | .. |
| United Kingdom | 29.6 | 22.3 | 24.2 | 13.8 | 11.9 | 6.4 | 13.7 | 6.0[c] |
| Canada | 33.1 | 33.4 | 25.7[f] | 25.9[c] | 13.7 | 12.9 | 16.6[f] | 15.2[c] |
| United States | 26.4 | 24.8 | 20.8 | 16.8 | 21.0 | 15.3 | 28.7 | 18.3[c] |

*Source*: National statistics.

Note: Belgium and Ireland: manufactured products Eurostat, ESA; Denmark and Finland: value added at basic values; Italy: Industry.

[a] 1966–1972.
[b] 1973–1979.
[c] 1973–1981.
[d] 1973–1980.
[e] 1963–1972.
[f] 1964–1972.

1973, although there are large differences between countries both in the level of profitability and in its rate of decline.

Both shares and rates after 1973 in western Europe and North America were lower than those in the 1960s and early 1970s, and the rates declined more sharply than shares. For six countries taken together (France, the Federal Republic of Germany, Sweden, the United Kingdom, Canada and the United States) average gross rates of return fell from 16 per cent in 1960–1972 to 12 per cent in 1973–1981, while the share of gross operating surplus in value added fell more modestly from 32 to 27 per cent. The decline in profit shares and rates of return tends to be more pronounced when measured net rather than gross because the share of capital consumption in GDP has tended to increase in all countries.

There are both cyclical and long-run influences on profits, but it is clear that in most countries there has been a falling long-term trend in both profit shares and rates of return, and that in some countries this decline represents the continuation of trends that were well established before 1973. In the Federal Republic of Germany and the United Kingdom these negative trends can be traced back at least to the late 1950s, while in the United States the rate of return in manufacturing started to fall in the late 1960s at the same time as productivity growth began to slow down. Profit shares have been on a downward trend in Belgium, France (during the 1970s), Sweden, the Federal Republic of Germany and the United Kingdom (in the last two countries net shares have tended to fall more sharply than gross). Profit shares do not show any clear downward trend in Finland, Norway, or Canada. In the United States, while gross shares have not been falling, there does appear to have been a modest decline in net shares.

For rates of return, the trend is clearer and more uniform even though the number of countries for which data are available is more limited. The strongest downward trends in the case of shares are in the Federal Republic of Germany and the United Kingdom. In the United States, where there was no trend in the gross profit shares and only a modest fall in net shares, both gross and net rates of return have been falling with a steeper decline in the net rate since the late 1960s.

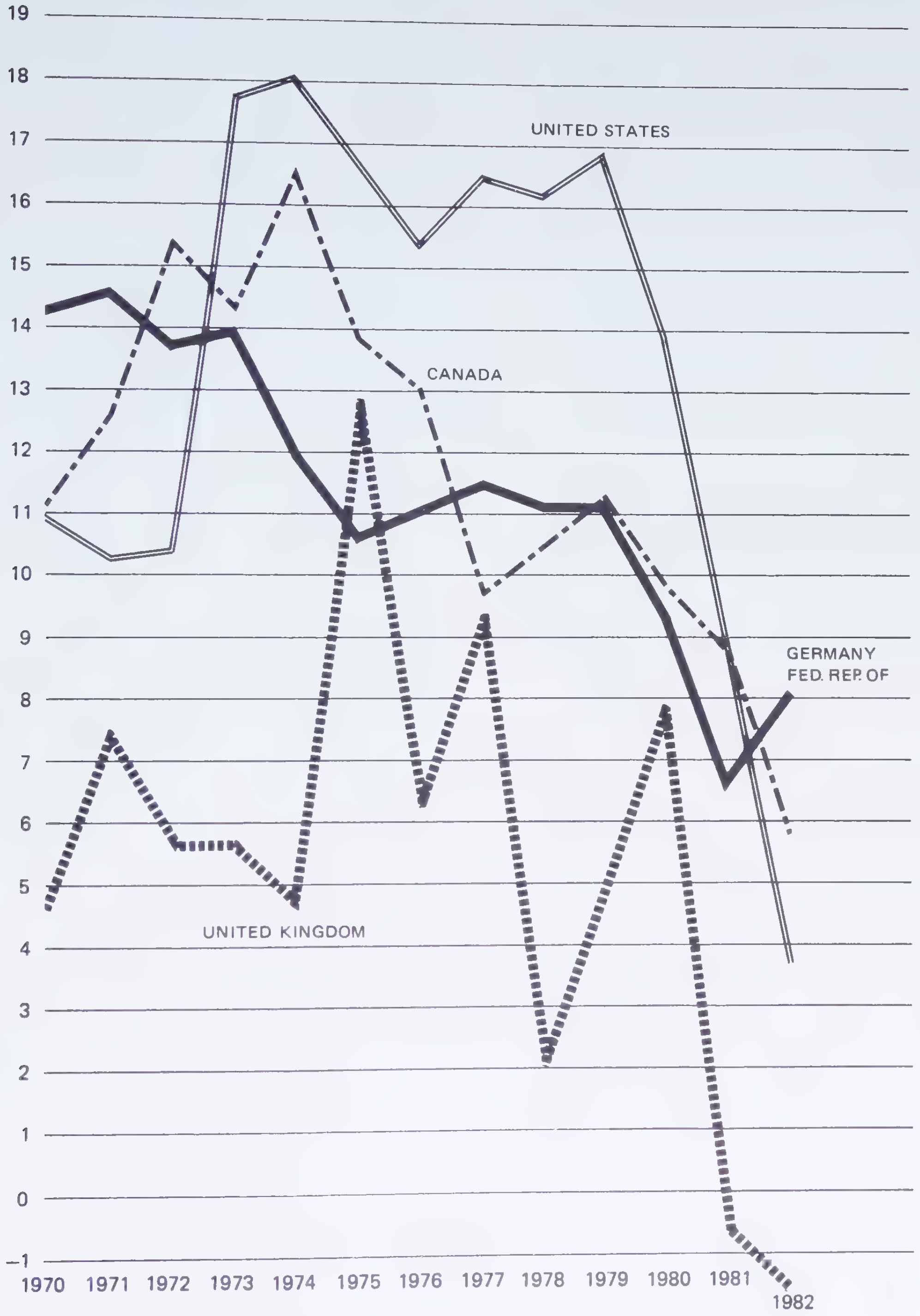
The profit rates based on national accounts data, as given above, only give a rough guide to the profitability of existing investments and they are not an adequate measure of a firm's expected internal rate of return at the margin, which is a more relevant concept for investment decisions. Moreover, when the prospects for fixed investment are being discussed the rate of return on existing assets is only one aspect of the problem. At the present time, high real interest rates have greatly increased the rate of return on financial assets. The impact of this development is illustrated in chart 1.3.1 which shows for four countries the difference between the gross rate of return on fixed assets and the real long-term interest rate (this may be called the "actual" or "pure" profit rate). The combination of falling rates of return and rising real interest rates resulted in a sharp fall in "actual" profit rates from 1979. In 1982 the "actual" rate was negative in the United Kingdom, and in the United States and Canada was at unprecedentedly low levels. It was only in the Federal Republic of Germany that the actual profitability rate recovered somewhat owing to a relatively stable gross rate of return and a lower real interest rate.

In 1983 nominal long-term interest rates in these four countries remained high. However, due to sharp falls in the rate of inflation, real long-term interest rates increased strongly. This development in real interest rates combined with a modest recovery in rates of return may have resulted in a further deterioration of actual profitability rates.

An important factor in the continued fall in the rates of inflation in 1983 was the deceleration in earnings which, in combination with rising productivity, led to considerable moderation in the growth of unit labour costs. The *future development of wages* is clearly of great importance for the prospects of a non-inflationary recovery of output. A too rapid growth of wages in relation to the improvement in productivity, perhaps as a result of trying to regain past losses in real income, could end the incipient improvement in company profits with

CHART 1.3.1

"ACTUAL" PROFITABILITY RATE a) 1970–1982



Sources: National Account; OECD, Main Economic Indicators, various issues.

a) The actual profitability rate is the difference between the gross rate of return on fixed assets and the real long-term interest rate. The latter is the long-term government bond yield less the rise in consumer prices.

negative effects on the recovery of investment. Alternatively, if companies try to maintain the recent improvement in their profit margins by passing on an increasing proportion of wage costs into higher prices, the probability of which will increase as the cyclical recovery in productivity begins to slow down, then expectations that governments will respond with more restrictive policies may be sufficient to deter an increase in investment.

At the beginning of 1984 most forecasters are fairly confident that wage settlements will remain moderate and that higher real incomes will derive from lower inflation and increased employment. Most governments of the market economies expect a further decline in their rates of inflation in 1984, an expectation which is supported by most of the forecasts made by international organizations. However, it is widely admitted that this is an area of great uncertainty, particularly for the period beyond 1984. A significant part of the decline in inflation since 1980 has been due to the squeeze on profits and the collapse of commodity prices: as already mentioned, profits improved in 1983 and any check to further improvement is likely to have an adverse effect on investment, while commodity prices, which are beyond the control of individual governments, are likely to be rising through 1984. This latter increase, which is highly desirable from the point of view of improving the longer run conditions of supply of many primary products, could be dampened for western Europe if their currencies were to appreciate significantly against the US dollar. Thus wage settlements in the present negotiating round and over the next year or so are crucially important for the prospects of sustained recovery. A number of governments believe there have been important changes in the behaviour of wage earners ("a greater sense of realism") as a result of the last recession and that there are grounds for optimism that the future growth of wages can be kept from exceeding the growth of productivity and even held below it in order to improve profits. However, this assumption has yet to be tested. At the turn of the year (December 1983 – January 1984) there has been some acceleration in rates of inflation, mainly due to exchange rate depreciation. At the same time, rising profits and the improving outlook for employment may encourage larger wage demands. Although the immediate prospects for such a development may not appear to be very strong, many governments in western Europe are implementing (or trying to implement) a range of measures which aim to ensure continued moderation in wages growth. A sample of some of the actual or intended measures will help to illustrate the general direction of policy in this area:

*Belgium*: Despite the formal resumption of wage indexation in the autumn of 1983 (although subject to government intervention if the rise should hamper competitivity of Belgian exports vis-à-vis seven main trading partners), the government's new economic policy measures include an agreement on wage restraint to be extended beyond the end of 1984 to 1986.

*Federal Republic of Germany*: Civil servants' pay rises which might influence wages in the private sectors, have been postponed to 1985. However the unions are demanding a 35-hour working week which could increase production costs considerably (the employers say by a jump of around 15–20 per cent).[36]

*Italy*: The government presented a decree to Parliament on 16 February, which must be approved in 60 days, aiming to alter the degree to which wages are automatically compensated for inflation (the *Scala Mobile*): for a rate of inflation up to 10 per cent wages would be increased by 3 percentage points less. If inflation exceeds this target rate of 10 per cent, wage earners will be compensated for the excess but in the form of income tax reductions in 1985 rather than higher wages. This decree also imposes a ceiling of 10 per cent on rises in state-controlled prices, and a one-year rent freeze. This is the first time that an Italian government has taken action to reduce wage indexation without the voluntary agreement of all interested parties.

*Netherlands*: As in the Federal Republic of Germany, civil servants' pay rises have been postponed to 1985 and in addition trade unions have accepted a 3 per cent pay cut in public sector pay.

*Norway*: Some moderate tax cuts have been announced with the aim of influencing the coming wage rounds.

*Sweden*: After the "social contract" signed between the government and the trade unions at the end of 1983 to forego compensation for the effects of devaluation, the blue-collar trade union federation (Landsorganisation) has demanded a 7 per cent wage increase in 1984. This is officially estimated to imply an 11 per cent increase in labour costs. The goverment wants a 6 per cent limit on wage increases.

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[36] On this issue see the concluding paragraph of section 1.5 below.

## 1.4 LABOUR MARKETS

The first part of this section highlights some of the main features of current labour developments in 1983. In particular, the present employment and unemployment situation is viewed against the background of a gradual recovery of output from the recession. High unemployment is now a major concern of governments, and the second part is devoted to a discussion of wage subsidies which have been used in many countries in an attempt to reduce unemployment.

### (i) Current developments

Overall developments in the labour market between 1982 and 1983 showed few signs of improvement in employment and unemployment. This is due to the fact that the upturn in economic activity is not only recent but in a number of countries also quite modest. By mid-1983 the total number of unemployed in western Europe and North America is estimated to have reached over 24 million, about equally divided between the two regions. This figure is 6 per cent higher than in mid-1982. Employment in 1983 recovered from its sharp drop in 1982, but the number of persons employed rose by less than 0.2 per cent. In absolute terms, this is an increase of about 400,000 jobs, which represents only one-fifth of the estimated rise of roughly 1.8 million in the supply of labour. As a result of these developments the average unemployment rate in 1983 for western Europe and North American rose to about 9.4 per cent, compared with 9 per cent in 1982.[37]

Nevertheless, seen against developments since the beginning of the present recession, the deterioration in labour market conditions in 1983 was less pronounced than in any of the years since 1979. The change in employment between mid-1982 and mid-1983, although very modest, compares with a fall of nearly 1 per cent for the preceding year. The 6 per cent increase in the number of unemployed between mid-1982 and mid-1983 was much less than in the previous three years when the number rose by between 15 and 25 per cent annually. The deceleration in the growth of unemployment was especially marked in comparison with 1982 when the number of persons unemployed rose by 25 per cent. The increase in the overall unemployment rate of less than 0.5 percentage points was smaller than in any year since 1979. It should, however, be noted that this slowdown in the rise of unemployment was partly due to a further fall in the growth of labour supply. As is usual in periods of stagnation or decline in the demand for labour, the growth of the labour force slowed down during the recession. According to the available estimates for the 15 countries combined, annual increments in the labour force have been steadily decreasing since 1979 and the percentage growth of somewhat over 0.7 per cent in 1983 was only half of that in 1980. Chart 1.4.1, showing year-on-year percentage changes in employment and unemployment since 1970, illustrates the relative improvements in 1983.

The improvement in relative, and to some extent in absolute, terms in labour market conditions in 1983 is confirmed by quarterly estimates of unemployment and employment up to the third quarter of 1983. Quarterly, seasonally adjusted unemployment data for ten countries combined[38] show a continuing rise in unemployment since the second quarter of 1979 with the largest increases occurring between the first and third quarter of 1980[39] and, particularly, between the third quarter of 1981 and the fourth of 1982. Between each of the successive quarters in the latter period unemployment rose by at least 5 per cent. From the last quarter of 1982, however, the number of unemployed tended to stabilize or decrease. There were minor fluctuations between the last quarter of 1982 and the second of 1983, but there was a substantial decline (4 to 5 per cent) in the number of jobless between the second and third quarter of 1983. This drop in unemployment, it may be noted, was not caused by a fall in the labour force, which might have occurred as a result of the "discouraged worker" effect. The number of persons in the labour force increased substantially in 1983, especially between the first and second quarters. The expansion of employment, therefore, must have been mainly responsible for the recent decline in unemployment.

This view is supported by the data on short-term developments in employment. Quarterly data, also seasonally adjusted, for the same ten countries referred to above, show a continuing decline in employment through 1981 and 1982: the only exception was between the last quarter of 1981 and the first of 1982 when employment levels remained virtually unchanged. However, between the first and second quarters of 1983 the number of those employed increased by about 0.5 per cent and recent estimates indicate a further increase in the following quarter of as much as 0.8 per cent. These quarterly developments of employment and unemployment are shown in chart 1.4.2.

The degree to which these recent developments signal a longer-term improvement in the labour markets is not yet clear. Temporary improvements have occurred before (such as the small increase of employment between the end of 1981 and the beginning of 1982), although they were less than those observed from early 1983. More important, it should be noted that labour markets have evolved in a substantially different manner in North America and in western Europe. This is true for the current recession as a whole as well as for more recent developments.

The dynamics of the labour market in North America – including an historically much higher growth rate of employment, greater flexibility of wages and wage costs, and a high degree of labour force and occupational mobility – are such that

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[37] These unemployment rates have been calculated on the basis of the total estimated labour force. They may therefore be lower than those obtained on the basis of narrower definitions of the labour force (civilian labour force, the working population excluding the self-employed) or on the basis of the number of those covered by employment or social insurance schemes. Nevertheless, taking into account the variations in national practices, the estimates on the whole seem to be consistent. In addition, it should be noted that the unemployment rates used here are annual averages. At times of rising unemployment, such as at present, annual averages may be substantially below the unemployment rates observed at the end of the year.

[38] The ten countries include the eight west European economies (the four major ones—France, the Federal Republic of Germany, Italy and the United Kingdom—plus Finland, Norway, Sweden and Switzerland), Canada and the United States

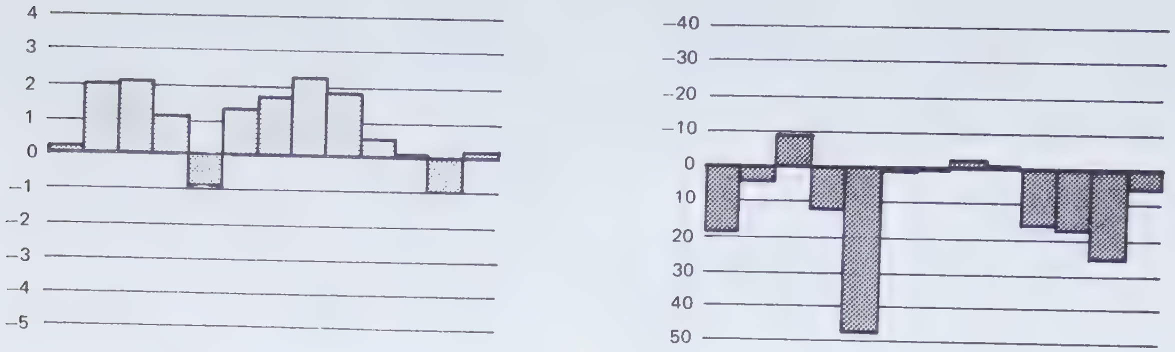
[39] The changes in this period were dominated by the 1980 recession, followed by a recovery of short duration in North America.

Chart 1.4.1

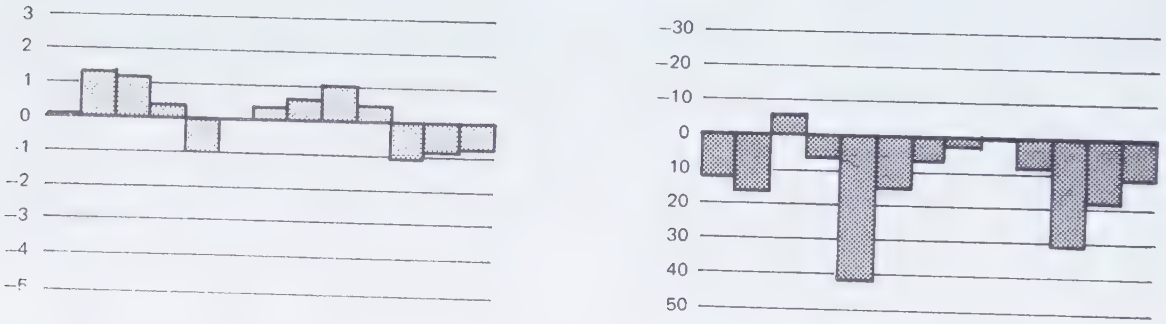
## ANNUAL CHANGES IN THE NUMBER OF PERSONS EMPLOYED AND UNEMPLOYED 1970-1983 a)

(Percentage change over previous year)

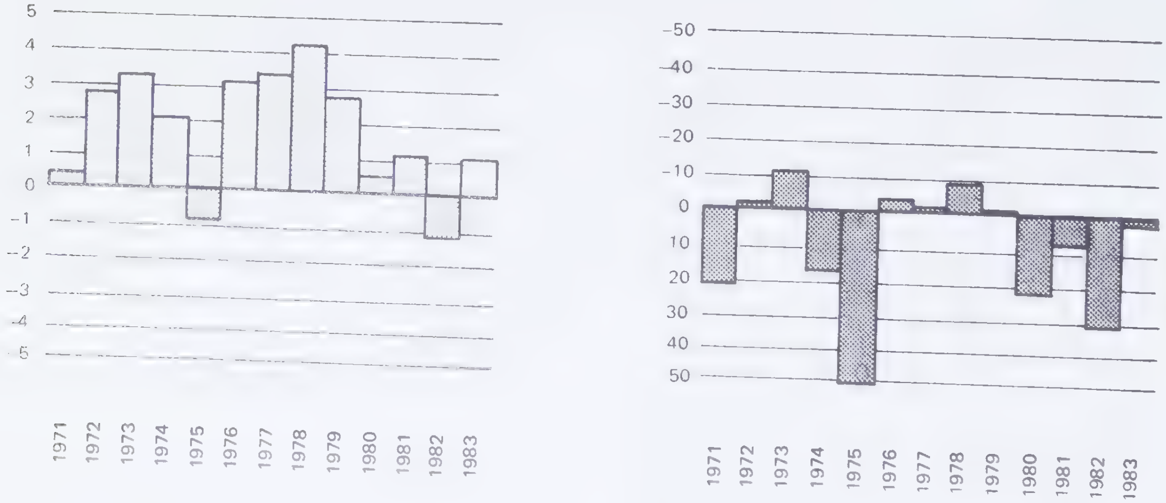
**Employed** Western Europe and North America **Unemployed**



Western Europe



North America



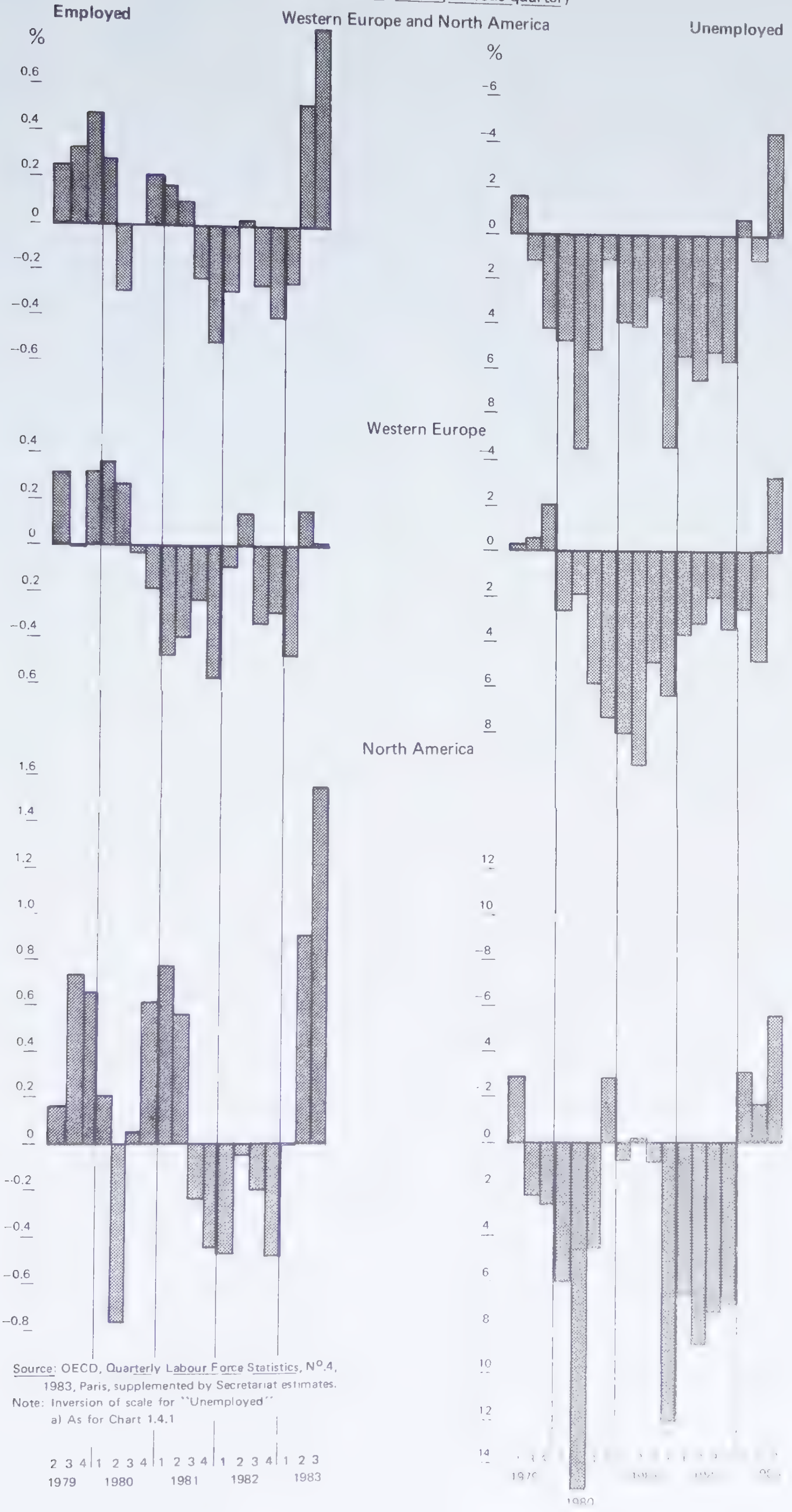
Source: National data and secretariat estimates. Note: Inversion of scale for "Unemployed"

a) Western Europe refers to eight countries (see text, footnote 38)

CHART 1.4.2

QUARTERLY CHANGES IN EMPLOYED AND UNEMPLOYED, 1979–1983 a)

(Percentage change over previous quarter)



Source: OECD, Quarterly Labour Force Statistics, N°.4, 1983, Paris, supplemented by Secretariat estimates.

Note: Inversion of scale for "Unemployed"

a) As for Chart 1.4.1

the response to changing economic conditions could be expected to be much more rapid than in western Europe. The behaviour of employment and unemployment during and after the 1973–1974 recession seems to bear this out (see the second and third panels of chart 1.4.1.) The initial impact of the recession in North America was much stronger than in western Europe. Between 1974 and 1975, for instance, the deceleration of employment growth was much greater than in western Europe. Although in both regions employment dropped by similar proportions (somewhat less than 1 per cent), in North America this fall was from a (then) usual rate of employment growth of around 3 per cent while in western Europe the normal rate of growth at the time was about 1 per cent. Likewise, the number of unemployed rose more rapidly between 1973 and 1975 in North America (over 50 per cent) than in western Europe (over 40 per cent). On the other hand, the recovery in North America was also considerably faster than in western Europe. The growth of employment, especially in the United States, returned to "normal" in 1976, whereas in western Europe there was a further decline followed by a modest increase in 1977. The cumulative loss of jobs in western Europe during and after the 1973–1974 recession was about one and a half times greater than in North America. Similarly, the unemployment rate in North America fell significantly after 1975 whereas in western Europe the rate continued to increase, albeit slowly.

The behaviour of labour markets in the two regions during the current recession exhibits a number of differences similar to those in 1973–1975. (Comparisons, however, are affected by the fact that in the United States, unlike western Europe, there was a weak but real recovery between the latter part of 1980 and mid-1981.)

As far as employment is concerned, although its growth in North America has decelerated sharply since 1979, there was an absolute decline only in one year, 1982. This fall by a little over 1 per cent between mid-1981 and mid-1982, was followed by a slightly larger increase in 1983. In contrast, employment in western Europe has fallen in each year since 1980 and the number of persons employed in 1982 was more than 2.5 per cent less than in 1980 (see also chart 1.4.1.)

In absolute terms this implies a loss of approximately 3.2 million jobs in three years, exceeding by more than two and a half times the loss of about 1.2 million in the course of one year in North America.[40]

Developments with respect to unemployment in the two regions also reveal persistent differences. Changes in the number of persons unemployed suggest a sharper initial increase and a more rapid fall in North America than in western Europe. Between mid-1979 and mid-1980 the number of unemployed in North America increased by more than 20 per cent and in western Europe by less than 10 per cent. The slowdown in the growth of unemployment in 1983 was also much more marked in North America, where annual unemployment virtually stabilized, than in western Europe where it increased by more than 11 per cent (chart 1.4.1).

Quarterly data on employment and unemployment in the two regions since 1979 confirm these differences. The largest percentage declines in employment and the largest increases in unemployment between any two quarters were in North America. The quarterly changes in western Europe were generally far smaller but much more persistent than in North America (see the second and third panels of chart 1.4.2). The major difference, however, between the two groups of countries reflects the earlier and much stronger recovery in North America. Employment in Canada and the United States stabilized towards the end of 1982 and then expanded rapidly through the first three quarters of 1983: the number employed increased by 2.8 per cent over this short period. Also in both countries unemployment had started to decline from the last quarter of 1982 and by the third quarter of 1983 had dropped by more than one-tenth. Provisional estimates suggest that between the third and fourth quarters of 1983 there was a substantial further growth of employment, by 0.9 per cent. The improvement in unemployment was even sharper: the number unemployed fell by over 9 per cent between the third and fourth quarter.

In contrast to these developments in North America, the signs of a recovery in the labour markets of western Europe were much weaker. In the eight west European countries for which data are available, the long term decline of employment was checked in the first quarter of 1983, but the magnitude of the change was very small. Not only was the initial gain in employment marginal, amounting to an increase of 0.1 to 0.2 per cent between the first and second quarters of 1983, but in the following quarters the level of employment seems to have stagnated. Improvements in unemployment were also far more modest than in North America. The number of jobless in the eight west European countries continued to rise in the second quarter of 1983 and only fell, by somewhat over 3 per cent, between the second and third quarters. More recent quarterly data are not available for all of the eight west European countries referred to above, but partial data do not point to any substantial improvements in the last quarter of 1983. In France, the number of unemployed stabilized between the second and third quarters, but increased again in the fourth. In the Federal Republic of Germany there was a considerable rise in unemployment in January 1984, although seasonal variations were the main factor. Seasonally adjusted data for the United Kingdom show a halt to the decline in the number unemployed in December 1983 and a slight, but possibly not significant, increase in January 1984.

Moreover, it should be noted that the improvement in labour market conditions in western Europe did not occur in all countries. Only in the United Kingdom, between the first and third quarters of 1983, was there an increase of more than 1 per cent in the number employed. Employment in most of the other eight countries tended to stabilize rather than to increase. Quarterly data for individual countries also show no uniform trend as far as a decline in the number of jobless is concerned. The number of unemployed, adjusted for seasonal variations, declined significantly between the first and third quarters of 1983 in Finland and Norway, and somewhat less in the United Kingdom. For the same period the numbers remained fairly stable in France, the Federal Republic of Germany and Switzerland. In Italy, large quarterly fluctuations make it difficult to discern any clear pattern. Finally, in Sweden there was a marked increase in unemployment between the first and third quarters. Changes in those countries not included in the averages for western Europe may not have been very different. For example, in the case of the Netherlands, for which seasonally adjusted quarterly data on unemployment are not available, monthly numbers show a significant increase between the first and third quarter of 1983.

Nevertheless, in general, current labour market developments do point to an improvement compared with the situation in recent years. Apart from the employment and unemployment figures, data on vacancies may be cited in this context. In eight of the 11 countries for which quarterly, seasonally adjusted statistics are available, the number of vacancies registered in the second or third quarters of 1983 was from about 20 to nearly 100 per cent above their lowest point since the second quarter of 1981. In the Federal Republic of Germany and the Netherlands, however, there have been only very modest and recent increases in the numbers of reported vacancies, and in France the number actually fell after the first quarter of 1983. Apart from Belgium and Norway, where the number of unfilled vacancies was very small to begin with, the largest jump since mid-1982 was in the United Kingdom.

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[40] It should be borne in mind, however, that, as noted above, employment has historically increased much more rapidly in North America than in western Europe

Another indicator of labour market conditions is the amount of involuntary short time work. In the Federal Republic of Germany the number of workers on short time in the third quarter of 1983 was about one-third of that in the first quarter, when short-term work was at its highest level since the beginning of the recession. In the United Kingdom the incidence of part-time work in the third quarter of 1983 was at its lowest since the beginning of 1979 and less than one-tenth of its peak (first quarter of 1981) in the present recession.

Thus, the extent and magnitude of the improvement in the labour markets has differed considerably on each side of the Atlantic. Whereas in North America the fairly strong upturn in output has also produced a significant recovery of employment,[41] the slower and more hesitant growth of output in western Europe has been associated, except in the United Kingdom, with at most a marginal improvement or at least a stabilization of conditions in the labour market. The impact of the recession on employment and unemployment, however, as well as the size of recent improvements, have varied considerably among the European countries. Percentage changes in employment and unemployment for the period from 1979 to 1983 and, where available, for quarters since mid-1982, are shown in table 1.4.1.

Although table 1.4.1 should be seen as providing orders of magnitude rather than precise figures, it does indicate the existence of considerable differences among countries. At the same time, however, the data suggest a number of common features. Countries such as Belgium, Denmark and the United Kingdom, where job losses began as early as 1979, experienced the greatest cumulative declines in employment (from more than 5 to over 6 per cent) but most of these were concentrated in the years before 1982. The quarterly data show, moreover, that the recovery of employment in the United Kingdom began earlier than in any of the other seven western European countries. Unemployment changes in these countries show a similar timing and size of change, albeit in the opposite direction, to those of employment. In those countries where the employment contraction started later, i.e. in 1980 or 1981, such as Austria, the Federal Republic of Germany, Ireland, the Netherlands and Switzerland, aggregate employment losses were smaller than in the first group, but the falls in 1982 and 1983 were still comparatively high and recent quarterly data, available for only two countries, show zero or only marginal gains in the number of jobs. Unemployment in this second group of countries still rose sharply, by one-fifth or more, between 1982 and 1983 and the most recent quarterly data, for the Federal Republic of Germany and Switzerland, show at best a stabilization in the level of unemployment. Not all countries, however, conform to either of these patterns: several, including France, Italy and Sweden, do not show any clear trend. Finland and Norway did not suffer any job losses on a year-to-year basis, although employment growth in both countries has slowed down significantly since 1980 and recent quarterly data show a mixture of employment increases and declines.

In spite of these recent improvements in the labour markets, in all west European countries (except Finland) and in North America annual unemployment rates are still at their highest levels of the post-war period (see chart 1.4.3). In all countries, again with the exception of Finland, the rise in unemployment since 1979 has been substantial. The magnitude of the unemployment problem in individual countries, however, varies greatly. Countries such as Austria, Norway, Sweden

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[41] Civilian employment in the United States, in the 12 months following the trough of the cycle in November 1982, grew at an above average rate (3.6 per cent) compared with previous post-war recoveries. See Council of Economic Advisers, "Annual Report", *loc. cit.*, p.186. About 400,000 jobs were created in 1983 in Canada, *Budget in Brief*, p. 13. This number is approximately 10 per cent higher than the annual average for the years 1977–1979 when employment recovered from the earlier recession.

TABLE 1.4.1

**Annual and quarterly changes in employment and unemployment, 1979–1983**

(*Percentage change over previous year or quarter*)

| Year/ /Quarter[a] | Austria | Belgium | Denmark | Finland | France | Germany Fed Rep. | Ireland | Italy | Netherlands | Norway | Sweden | Switzerland | United Kingdom | Canada | United States |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Employed | | | | | | | | |
| 1979 | 0.2 | 1.2 | 0.8 | 2.5 | −0.1 | 1.3 | 3.2 | 1.1 | 2.3 | 0.9 | 1.6 | 0.7 | 1.3 | 3.9 | 2.8 |
| 1980 | 0.2 | −0.1 | −1.4 | 3.2 | — | 1.0 | 1.6 | 1.5 | 2.3 | 2.2 | 1.2 | 1.8 | −1.0 | 2.7 | 0.5 |
| 1981 | 0.1 | −2.0 | −2.5 | 1.1 | −0.8 | −0.8 | −1.0 | 0.4 | −0.1 | 0.9 | −0.2 | 1.2 | −3.4 | 2.6 | 1.2 |
| 1982 | −1.2 | −2.0 | −0.4 | 1.0 | 0.2 | −1.8 | −0.4 | −0.3 | −0.6 | 0.7 | −0.1 | −0.7 | −1.7 | −3.2 | −0.8 |
| 1983 | −1.2 | −1.3 | −0.9 | 0.6 | −0.6 | −1.7 | −2.1 | −0.3 | −1.2 | 0.6 | — | −1.1 | −0.5 | 0.2 | 1.3 |
| 1982 IV | — | — | — | 0.6 | −0.2 | −0.6 | — | — | — | −0.5 | — | — | −0.6 | −0.9 | −0.5 |
| 1983 I | — | — | — | −0.3 | −0.3 | −0.9 | — | 0.3 | — | −1.0 | −0.2 | −0.5 | −0.8 | 0.2 | — |
| 1983 II | — | — | — | 0.1 | −0.1 | −0.3 | — | 0.2 | — | 2.6 | 0.2 | −0.9 | 0.9 | 1.4 | 0.8 |
| 1983 III | — | — | — | −0.4 | −0.2 | — | — | −0.2 | — | −0.1 | −0.1 | 0.3 | 0.4 | 1.4 | 1.6 |
| | | | | | | | Unemployed | | | | | | | | |
| 1979 | −3.4 | 5.0 | −26.8 | −16.7 | 14.5 | −11.8 | −12.9 | 8.1 | 4.1 | 11.8 | −6.4 | - | −6.3 | −7.9 | −1.0 |
| 1980 | −6.4 | 6.5 | 37.4 | −20.3 | 7.2 | 1.5 | 2.7 | — | 15.9 | −13.2 | −2.3 | −40.0 | 28.4 | 3.5 | 24.4 |
| 1981 | 26.4 | 28.3 | 43.8 | 16.7 | 16.7 | 43.1 | 48.7 | 12.6 | 54.8 | 21.2 | 25.6 | — | 51.4 | 3.6 | 7.9 |
| 1982 | 56.7 | 17.0 | 7.8 | 10.3 | 10.3 | 44.1 | 21.2 | 8.2 | 41.4 | 30.0 | 26.9 | 116.7 | 15.8 | 45.3 | 29.6 |
| 1983 | 21.9 | 10.9 | 6.8 | 2.2 | 2.2 | 23.3 | 29.2 | 9.5 | 25.4 | 28.8 | 10.2 | 100.0 | 6.4 | 14.6 | 0.4 |
| 1982 IV | .. | .. | .. | 4.1 | −0.2 | 8.5 | .. | 3.7 | .. | 38.8 | −11.3 | 18.8 | 2.7 | 4.7 | 7.4 |
| 1983 I | .. | .. | .. | −0.6 | −0.7 | −0.8 | .. | 8.4 | .. | 14.7 | 6.7 | 26.3 | 3.1 | −1.4 | −3.4 |
| 1983 II | .. | .. | .. | 6.5 | 0.5 | 13.3 | .. | 8.1 | .. | −7.7 | 7.7 | 20.8 | −0.6 | −0.1 | −1.9 |
| 1983 III | .. | .. | .. | −9.8 | 0.0 | 1.2 | | −12.4 | | −9.7 | 5.8 | — | −1.2 | −5.1 | −5.8 |

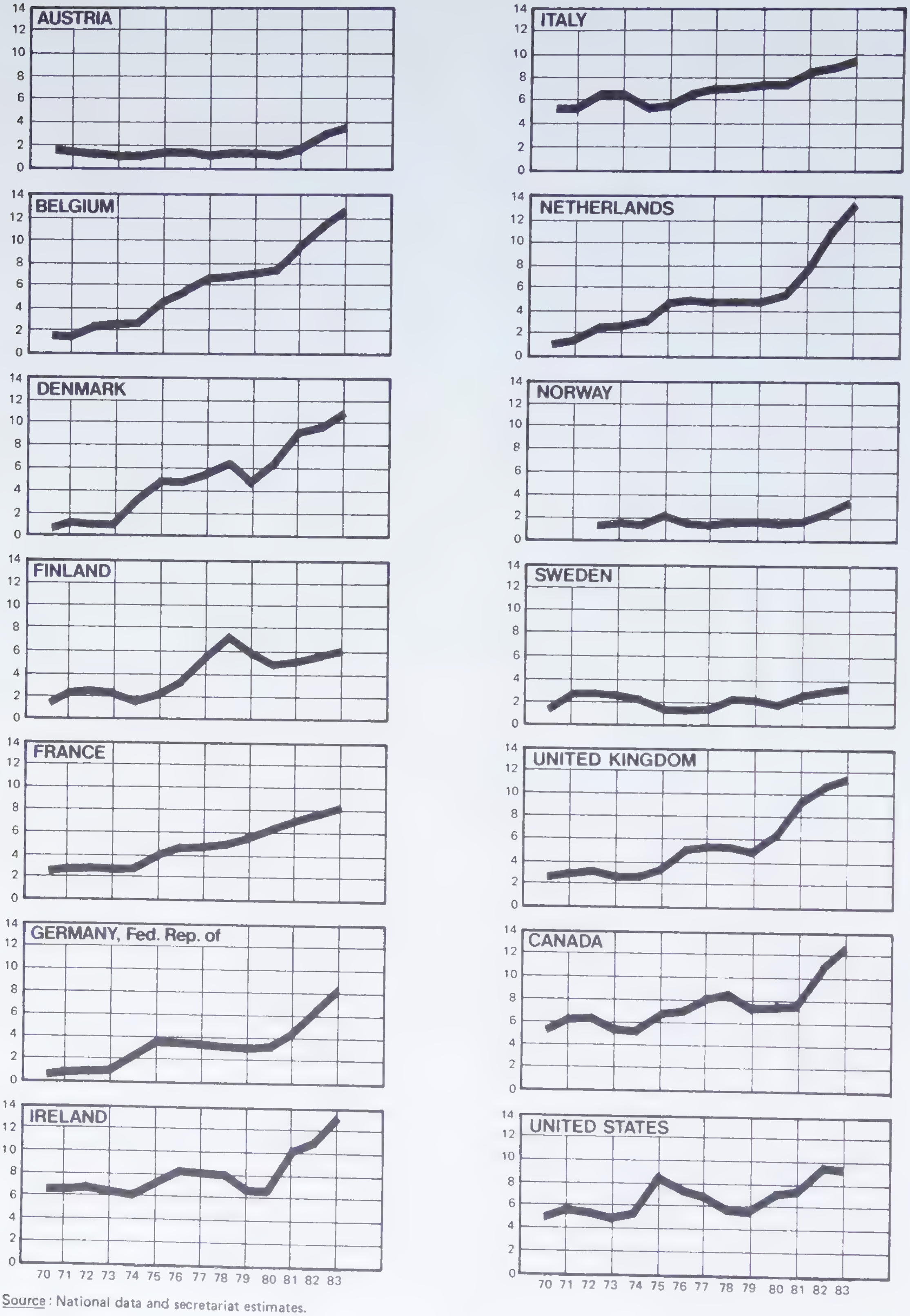
*Source*: National statistics; OECD, *Quarterly Labour Force Statistics*, No. 4, 1983, Paris, and secretariat estimates

[a] Seasonally adjusted data

Chart 1.4.3

UNEMPLOYMENT RATES IN SELECTED COUNTRIES, 1970-1983

(Percent of total labour force)



Source: National data and secretariat estimates.

and Switzerland, which in the past had very low levels of unemployment and were also successful in limiting the impact of the 1973–1974 recession, still have unemployment rates ranging between 1 per cent in Switzerland (not included in chart 1.4.3) to 4 per cent. Unemployment is higher in Finland, but the rate of 6 per cent is actually lower than in 1978. Another group of countries is formed by those with unemployment rates ranging from somewhat over 8 per cent to close to 10 per cent. France and the Federal Republic of Germany are at the lower end of this range, as are the United States after the recent fall in joblessness, while Italy is near the upper limit. In the remaining countries unemployment is more than 10 per cent of the labour force. In Denmark the rate is between 10 and 11 per cent and, after the recent declines, the rates in Canada and the United Kingdom are also around 11 per cent. In Belgium about 12.5 per cent of the labour force is unemployed and in the Netherlands and Ireland, the rate is approximately 13.5 per cent.

The prospects of reducing unemployment will obviously depend to a large degree on the strength of the recovery and the volume of new jobs generated by it. Labour supply developments, however, may also play a significant role. Whereas it is difficult to anticipate the strength of labour demand in the next few years, the future growth of labour supply is less uncertain. This is especially true insofar as the demographic changes underlying labour force trends are predictable within fairly narrow limits. Labour force participation rates, however, are much more difficult to forecast, particularly after a recession which itself may have affected participation rates through the so-called "discouraged worker" effect. The negative effect of adverse economic and labour market conditions on labour force participation, however, may not only distort the historical trends: the recovery itself may cause a number of discouraged, as well as other potential workers to enter the labour market. The existence of a discouraged worker effect, and even more so, its magnitude and the extent to which discouraged workers may enter or re-enter the labour market, is very difficult to establish.

There are some indications of a discouraged worker effect in the recent recession. As noted above, the annual rate of growth of the total labour force in western Europe and North America was halved (from 1.4 to 0.7 per cent) between 1979 and 1982. In the case of North America, a significant slowdown in labour force growth was to be expected because of demographic factors, especially the decline in the numbers entering the labour force as a consequence of the fall in fertility which started in the 1960s. In western Europe this was not yet the case and the significant slowdown in labour force growth might be the result of a discouraged worker effect. In fact, total labour force growth in western Europe is estimated to have fallen from around 1 per cent in 1978–1979 to less that one-fifth of that in 1982–1983. Assuming that in the absence of the recession the labour force would have continued to increase at an annual rate of 0.8 per cent between 1980 and 1983, the number of discouraged workers might be estimated at somewhat over 1.3 million, or about 1 per cent of the 1983 labour force. A similar but more detailed calculation for the United States does not provide evidence that labour force participation rates have declined since the beginning of the recession. The application of 1979 sex-age specific labour force activity rates to the 1983 population gives a lower hypothetical labour force in 1983 than the actual one, implying that, on balance, participation rates increased between 1979 and 1983.[42]

In the coming years the strength of labour demand and the growth of labour supply will both differ on each side of the Atlantic. Demographic changes, in particular the declining share of young entrants in the labour force in Canada and the United States, have caused a slowdown in labour force growth from the late 1970s and this comparatively low labour force growth will continue through the 1980s. Projections of the Canadian labour force imply an average annual growth rate of 1.9 per cent between 1984 and 1988. While still fairly high, this rate represents a substantial reduction from the average increase of 3.2 per cent annually in the 1970s.[43]. As already noted before, in the United States, labour force growth has also been slowing down significantly for the same reasons. The projected annual growth rate of the labour force of 1.6 per cent between 1982 and 1990 is less than half the average growth rate between 1975 and 1979.[44] In the light of these likely developments of labour supply, an even comparatively moderate growth of employment in the coming years could make a substantial reduction in unemployment levels.

Labour force growth in western Europe has traditionally been much less than in North America, but the slowdown in its growth, which started in North America in the late 1970s and may have facilitated labour market adjustments, is only beginning to be felt in western Europe. Labour force projections based on the assumption of constant sex-age specific activity rates in 1982, and which therefore reflect the potential impact of demographic changes on labour supply, illustrate these developments. These projections, for nine countries, show that demographic factors may be expected to have a major impact on the supply of labour in the coming years. The timing and magnitude of this effect, however, differs between countries. Changes in population growth and composition will already have had a significant impact on the growth of labour supply between 1983 and 1984 in Denmark: between 1984 and 1985 that should also be the case in Austria, the Federal Republic of Germany and the United Kingdom. The effect will be delayed until 1985–1986 in Belgium, Finland, France and Sweden. Labour force growth would not be markedly affected by demographic trends in the Netherlands and Norway until at least 1985–1986. The potential for a slowdown in labour force growth due to demographic trends is, as in both Canada and the United States, significant. In the seven countries affected, the drop in the annual percentage increase of the labour force between 1982–1983 and 1985–1986 ranges from one-third to two-thirds. Labour supply developments may therefore facilitate efforts to reduce unemployment from its current high levels. Such a prospect, however, does not exist in Norway and, in particular, in the Netherlands. Not only is the unemployment rate in the Netherlands one of the highest in western Europe but even with no increase in participation rates, the labour force will continue to grow in the next few years at a rate of one per cent or more.[45]

To the extent that the potentially positive contribution of demographic trends to a solution of the unemployment problem will only be felt gradually, more immediate measures for relieving the situation in the labour market have been called for. Governments in recent years have introduced an array of programmes aimed, directly or indirectly, at reducing unemployment. The following section describes one such set of programmes and assesses their possible impact.

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[42] It should be noted, however, that the average annual growth rate of the labour force between 1979 and 1983 (about 1.5 per cent) remained considerably below the projected rate based on past experience up to 1979. See Department of Labor, *Economic Projections to 1990*, Washington, March 1982. It has also been estimated that about 1.5 million persons in the United States have given up looking for jobs.

[43] Department of Finance, *The Canadian Economy in Recovery*, February 1984, p. 12.

[44] H. Fullerton and J. Tschetter, "The 1995 Labor Force: A Second Look", *Monthly Labor Review*, November 1983, pp. 3–10.

[45] Although no data were available to prepare similar projections, Ireland, which also has a very high unemployment rate and a rapid labour force growth, may face conditions similar to those in the Netherlands.

### (ii) Wage subsidy schemes

#### (a) *Introduction*

Confronted simultaneously with soaring unemployment and double digit inflation and reluctant to use expansionary fiscal and monetary policies to combat unemployment, governments in the ECE region have increasingly resorted to a variety of "new" employment measures. Coinciding with the general cyclical downturn in economic activity in the mid-1970s, the use of employment subsidies has become increasingly widespread, the aim being to directly boost (or prevent a fall in) the demand for labour. As instruments of economic policy these measures are intended to stimulate employment without reigniting inflation, in a sense "cheating" the Phillips curve, the classical tradeoff between unemployment and inflation.[46]

After a brief discussion of the nature of wage subsidies, a compilation of the major subsidy programmes implemented in western Europe and North America since the early 1970s is presented in qualitative as well as quantitive terms without claiming to be exhaustive. On the basis of existing evaluative studies, some of the schemes are analysed in greater detail before coming to some conclusions.

#### (b) *On the nature of wage subsidy programmes*

Most employment subsidies and job support schemes have been introduced as counter-cyclical measures and this is reflected in the majority of cases by their short-term nature. However, the unexpected length of the recessions has led either to the frequent renewal of existing schemes or to a succession of alternative ones. The temporary nature of most programmes would appear to confirm that governments see them mainly as intending to deal with unemployment which has been caused by deficient demand (what might be described as "Keynesian" unemployment). However, some schemes would also appear to be directed at unemployment that is due to the real wage being too high (so-called "classical" unemployment), such as those which are intended to "price young workers (or new entrants to the labour force) into employment". In this latter case the various causes of the excessive level of real wages will have to be dealt with by separate measures if the subsidy is not to be paid indefinitely. In a situation of Keynesian unemployment job support schemes can be seen as an attempt to soften the impact of output fluctuations on employment: not only is this socially desirable but it may lead to a lower level of government expenditure if the subsidy is less than the cost to the government (benefits paid plus loss of tax revenue) of a worker becoming unemployed. Where unemployment is due to real wages being too high then the objective (however implicit) must be to bring about an enduring change in the price of labour relative to capital. In practice neither this distinction between types of unemployment nor the possible effects of job subsidies on structural adjustment and the future sectoral and occupational distribution of labour appear to have been given much prominence in the discussion and formulation of the various schemes. Governments have felt compelled to respond to high and rising levels of unemployment and in such a situation the time horizon of policy formation tends to become fairly short.

One particular aspect of wage subsidies which has attracted special attention is the extent to which they operate as export promoting and/or import displacing subsidies improving competitiveness and thus reducing balance of payments deficits. A subsidy may permit a firm to enter new export markets where prices originally were too low to cover marginal costs. It has been estimated for example, that in the United Kingdom, the balance of payments effect of a marginal employment subsidy of one-third of average earnings is equivalent to a devaluation of about 1.5 per cent.[47] However favourable these effects may be to the country introducing the measures, in an international context it merely exports the unemployment problem to other countries and invites retaliation. With all countries subsidizing employment to obtain a competitive advantage over other nations the net result would be zero, although all would succeed in lowering the cost of labour relative to capital. One indication of the success of the Temporary Employment Subsidy introduced in the United Kingdom in 1975 was the fact that after four years it was discontinued as a result of complaints from the Commission of the European Economic Community that it bestowed an unfair trade advantage upon British companies. It was found that during the period 1975–1978 the export performance of the United Kingdom improved, while import penetration declined.[48]

Employment subsidies, far from being homogeneous, exist in myriad forms. In its most common form the subsidy is a payment to either an employer or employee directly or via a tax credit and can be a flat amount or percentage varying with the level of earnings, wage rate, overall wage bill or duration of coverage. The heterogeneity arises from the fact that while some subsidies have been based upon a firm's total wage costs, more commonly they are one of the following three variations:

1. *Redundancy averting subsidy*. This is an anti-cyclical measure whose purpose is to avert or at least postpone layoffs by subsidizing workers at risk of being made redundant (British Temporary Employment Subsidy). Implicit in this type of scheme is the risk of propping up structurally weak enterprises and of maintaining worker attachment to the firm involved. These subsidies have been principally concentrated in sunset or declining industries, which are usually facing severe international competition;

2. *Marginal employment subsidy*. A subsidy which is paid only on increments to the overall employment level of a firm and thus favours expanding firms, rather than those that are weak and declining (Employment Tax Credit Programme of Canada);

3. *Recruitment subsidy*. This is applicable only to newly hired workers but unlike the marginal subsidy the firm is not required to increase the size of its work force above a stipulated

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[46] However, wage subsidies are not a recent phenomenon. The first known subsidy dates from 1932 which was undertaken for six months in Germany. George Kopits, "Wage Subsidies and Employment: An Analysis of the French Experience", *International Monetary Fund Staff Papers*, vol. 25, No. 3, September 1978, pp. 495–519. Subsidization of wage costs as a device to reduce unemployment was advocated almost fifty years ago. See Nicholas Kaldor, "Wage Subsidies as a Remedy for Unemployment" *Journal of Political Economy*, vol. 44, December 1936, pp. 721–42. A similar scheme was also advocated in Price-Wage-Tax Subsidy as Instruments in Maintaining Optimal Employment, United Nations Economic and Social Council, 1949, E/CN.1/Sub.2/13. For recent studies suggesting the use of fiscal incentives see, for example, George Johnson, "The Theory of Labour Market Intervention", *Economica*, vol. 47, No. 187, August 1980, pp. 309–329; John Bishop and Robert Haveman, "Selective Employment Subsidies: Can Okun's Law be Repealed?", *American Economic Review*, vol. 69, No. 2, May 1979, pp. 124–130; OECD, *Marginal Employment Subsidies*, Paris, 1982, 97 p.

[47] R. Layard and S. Nickell, "The Case for Subsidizing Extra Jobs", *The Economic Journal*, 90 (March) 1980, pp. 51–73. For a critical response to this case see J.D. Whitley and R.A. Wilson, "The Macroeconomic Merits of a Marginal Employment Subsidy", *The Economic Journal*, 93 (December) 1983, pp. 862–880 and Layard and Nickell's reply, *loc.cit.*, pp. 881–882.

[48] B. Deakin and C. Pratten, "Effects of the Temporary Employment Subsidy", Cambridge University Department of Applied Economics. *Occasional Paper 53*, Cambridge University Press, 1981.

level (Exemptions from Employers Social Security Contributions in France).

Regardless of whether it is redundancy-averting, marginal or for recruitment, a subsidy can be general if it applies to all types of employees and employers or categorical if it is limited to employees and employers with particular industrial, regional, demographic or other characteristics. For example, the subsidy can be restricted to youth, the disabled, the long-term unemployed, economically depressed regions or certain industries. The targeted employment subsidy by focusing on certain disadvantaged groups aims to encourage the employment of those who might otherwise remain unemployed. The reason for targeting subsidies on specific groups has been to shift the demand for labour to those workers who because of a disproportionately high level of unemployment, weak bargaining power or rigid wages are on relatively flat Phillips' curves and thus will not increase the level of employment induced inflation. For modifying structural imperfections, targeted subsidies are considered to be the most effective.[49]

A critical element in the success of wage subsidization policies, often measured in the simplest terms as the government's net revenue loss per job, is the extent to which the undesirable side-effects associated with these programmes have been minimized. The negative consequences are considered to be:

*Churning*. Employers can raise the amount of subsidy received by accelerating labour turnover. Simultaneously hiring subsidized employees and dismissing unsubsidized workers allows the employer to collect the subsidy without there being any increase in overall employment. Marginal employment subsidies minimize this problem as they are based upon an increase in the stock of employment rather than the flow;

*Deadweight*. This results from firms receiving the subsidy for workers who would have been hired or retained even without the subsidy and represents a windfall to the firm;

*Displacement*. Subsidized workers may displace non-subsidized workers in a given firm or the output of a subsidized firm may displace that of a non-subsidized firm. Its extent is particularly difficult to estimate.

Although encumbered with a number of difficulties, another frequently used method of evaluating subsidy programmes has been cost-benefit analysis. The problems that arise with this technique concern first, the many factors which must be taken into consideration, some of which have already been mentioned and, second, the values to impute to these factors, one of the most important being the selection of the rate of return.[50] Leaving aside the issue of imputed values, table 1.4.2 presents a cost-benefit taxonomy indicating the gainers and losers in subsidy schemes and the costs and benefits they face.[51] Such an accounting framework even if based on variables that are not easily quantified can highlight the equity considerations involved as well as focus on economic efficiency.[52] Depending on whether the subsidized worker had previously been employed or unemployed, the table would have to be modified to reflect the previous employment status. However, even if subsidies fail to raise the level of employment, reduce inflation or be economically efficient, they may still be deemed beneficial if they alter the composition of labour demand in favour of groups suffering from disproportionate rates of unemployment. The redistribution of employment has often

TABLE 1.4.2

**Benefits and costs of employment subsidies to the programme participant, government and society**

| | Benefits | Costs |
|---|---|---|
| Programme participant | – Value of salary<br>– Value of training and experience<br>– Social and psychological benefits of not being unemployed | – Value of unemployment benefit foregone[a]<br>– Value of training and experience foregone[b] |
| Government | – Reduction in expenditures for unemployment benefits and other income tranfer programmes<br>– Increase in social security contributions<br>– Increase in income taxes | - Expenditures on subsidy programmes<br>– Expenditures for unemployment benefits and other income transfer programmes for displaced workers |
| Society | – Value of output<br>– Value of additional employment and output due to multiplier effect of subsidized jobs | – Value of output foregone[b]<br>– Value of displaced output |

[a] Assumes programme participant would have been unemployed in the absence of a subsidy

[b] Assumes programme participant would have been elsewhere employed in the absence of a subsidy

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[49] The advantages of targeted employment subsidies are discussed at length in OECD, *Marginal Employment Subsidies*, Paris, 1982, 97 p.

[50] For a description of the techniques and institutional arrangements used to evaluate financial subsidies in general, see: OECD, *Transparency for Positive Adjustment*, Paris, 1983.

[51] This taxonomy is a substantially modified version of one proposed by Robert Taggart, "Economic Efficiency of Public Employment Programmes: Comment", in John Palmer (ed.) *Creating Jobs: Public Employment Programmes and Wage Subsidies*, Brookings Institution, Washington, D.C., 1978.

[52] A number of studies have undertaken cost-benefit analyses of wage subsidies. See, for example, B. Deakin and C. Pratten, "Effects of the Temporary Employment Subsidy", Cambridge University, Department of Applied Economics, *Occasional Paper 53*, 1981; R.A. Jackman and P.R.G. Layard, "The Efficiency Case for Long-run Labour Market Policies", *Economica*, 47, No. 187, August 1980, pp. 331–349; Robert Tannenwald, "Are Wage and Training Subsidies Cost Effective? – Some Evidence from the New Jobs Tax Credit", *New England Economic Review*, Federal Reserve Bank of Boston, September/October 1982, pp. 25–34.

been cited as the primary goal of targeted employment subsidies.[53]

Any discussion of the pros and cons of subsidies to labour should include mention of alternative job creation policies. Direct employment creation in the public sector is one widely used measure to combat unemployment. If one considers such programmes as a 100 per cent employment subsidy in the public sector then the similarity between the two approaches is evident. Nevertheless, there are major differences. Private sector subsidies are conditioned to some degree by demand for a firm's output. Public sector subsidies are independent of such forces and have sometimes consisted of make-work arrangements with the experience gained by workers not being transferable to other employment. As a response to cyclical unemployment there is evidence to suggest that in some countries public works programmes adopted during recessions have proved counterproductive because of the long time lag between programme enactment and implementation.[54]

(c) *Inventory of wage subsidy programmmes*

Virtually all countries of western Europe and North America have turned to wage subsidies in one form or another as one way of mitigating the severity of the unemployment problem. An inventory of major subsidy programmes in western Europe and North America is presented in the Appendix: this provides the available information on the salient features of the major schemes. By focusing on the highlights of the most important schemes that have been implemented there emerges from the table a diversity both between countries as well as within countries over time. This diversity springs for the most part from the contrasting socio-economic conditions among countries, as well as from differing perceptions concerning the extent and severity of the problem. However, there is a common feature to the programmes. Most have been adopted as a reaction to economic recession and were designed therefore with a countercyclical objective in mind; namely to preserve or create employment during a period of temporary slack in labour demand. Consequently, the programmes were initially established for a short period. Thus, the failure of the economic upturn to materialize led to a number of programmes being extended or replaced by modified schemes. As a consequence of doubts as to the prospect of an early decline in currently high rates of unemployment, several countries have recently introduced new subsidy packages: Belgium, the United Kingdom and the United States in 1983 and Sweden in 1984.

Some countries have been more disposed than others to use subsidies as a tool of active manpower policy: this can be seen more clearly in table 1.4.3. In particular, Belgium, France, Sweden, the United Kingdom and the United States have introduced and experimented with a large variety of wage subsidy schemes.

As already discussed a typology exists for classifying subsidies by type, namely, recruitment, incremental (marginal employment) or redundancy- averting. Recruitment subsidies have been the predominant form in most countries, followed by incremental employment subsidies and then redundancy-averting schemes which have been most popular in the Netherlands, Sweden and the United Kingdom. However, even within one type of programme there can be numerous variations. For example, one form of redundancy-averting subsidy is that given for short-time work. Under this programme, employees threatened with unemployment work half-time while receiving a subsidy to compensate for lost earnings. This is the case with the Temporary Short-time Working Compensation Scheme and Job-splitting Scheme in the United Kingdom and the Subsidies for Short-time Work in the Federal Republic of Germany.

TABLE 1.4.3

**Summary of employment subsidy programmes**

| | Type of programme | | | |
|---|---|---|---|---|
| | Total | Recruitment | Incremental | Redundancy-averting |
| Belgium | 6 | 4 | 2 | — |
| Denmark | 5 | 3 | 2 | — |
| Finland | 4 | 2 | 1 | 1 |
| France | 7 | 5 | 1 | 1 |
| Germany, Fed. Rep. of | 4 | 2 | 1 | 1 |
| Ireland | 3 | — | 2 | 1 |
| Italy | 1 | 1 | — | — |
| Netherlands | 6 | 3 | 1 | 2 |
| Norway | 2 | 2 | — | — |
| Sweden | 10 | 3 | 4 | 3 |
| United Kingdom | 12 | 7 | 1 | 4 |
| Canada | 3 | 1 | 2 | - |
| United States | 7 | 6 | 1 | — |

*Source*: See Appendix.

A great many of the schemes have incorporated an apprenticeship or traineeship component whereby firms provide on-the-job training for which subsidies are granted and, sometimes, reimbursement of expenses. Such programmes usually cater to youth, a group that has suffered from a disproportionately high rate of unemployment. A concern for excessive unemployment among young people is reflected in the fact that this is the most common target group for wage subsidies. To a lesser degree programmes have focused on the unemployed or long-term unemployed. Table 1.4.4 summarizes the information concerning the employee eligibility of the subsidization programmes.

Another variable characteristic of the various schemes is the period of eligibility for subsidies, summarized in table 1.4.5. While some countries such as the United Kingdom have favoured short-term subsidies – those lasting less than one year – other countries, notably Belgium and Sweden, have implemented programmes whose period of entitlement has exceeded two years. These differences are in part explained by the fact that the British programmes have sought to combat cyclical downturns in business, while in Belgium and Sweden the objective has been to remedy the more long-term problems associated with structural unemployment. Although some schemes are based upon income tax credits, notably in Canada and the United States, or exemptions from social security contributions (Belgium and France), the majority of programmes consist of either a subsidy for wages paid or direct payments to employees.

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[53] Subsidy schemes continue to be viewed with distrust by labour unions. In early 1984 programmes for subsidy wages came under heavy fire in France and the United Kingdom because of the relaxation of existing labour and social legislation in certain cases and the reduction in youth pay rates which it is thought would lead to a substitution of labour between youths and adults.

[54] One study of the United States programme found that 90 per cent of the expenditures for local public works projects designed to stimulate recovery during the 1974/75 recession occurred more than 2 1/2 years after the trough of the recession. See: Council of Economic Advisers, "Annual Report", *loc.cit*.

### Table 1.4.4

### Employee eligibility

| | Total number of programmes[a] | Youth | Unemployed | Long-term unemployed | Other | No restrictions |
|---|---|---|---|---|---|---|
| Belgium | 6 | 3 | 1 | 2 | | |
| Denmark | 5 | 4 | — | 1 | | |
| Finland | 4 | 1 | 1 | | 1 | 1 |
| France | 7 | 6 | | | | 1 |
| Germany, Fed. Rep. of | 4 | | | 1 | 1 | 2 |
| Ireland | 3 | 1 | 1 | | 1 | 1 |
| Italy | 1 | 1 | | | | |
| Netherlands | 6 | 2 | | 1 | 2 | 2 |
| Norway | 2 | 2 | | | | |
| Sweden | 10 | 2 | 1 | 1 | 4 | 3 |
| United Kingdom | 12 | 6 | 1 | 1 | | 4 |
| Canada | 3 | 1 | 2 | | | |
| United States | 7 | 2 | 1 | | 3 | 1 |

*Source*: See Appendix.

[a] Figures may not add to total as some programmes include more than one group.

### Table 1.4.5

### Length of subsidization
*(maximum period of entitlement)*

| | Total number of programmes[a] | Less than 1 year | 1 year | 18 months | 2 years | More than 2 years | Not known |
|---|---|---|---|---|---|---|---|
| Belgium | 6 | 1 | 1 | | 2 | 3 | |
| Denmark | 5 | 1 | 1 | | | | 3 |
| Finland | 4 | | 1 | 1 | | 2 | |
| France | 7 | 2 | 2 | | 2 | | 1 |
| Germany, Fed. Rep. of | 4 | 1 | | 1 | 2 | | |
| Ireland | 3 | | | 1 | 1 | | 1 |
| Italy | 1 | | | 1 | | | |
| Netherlands | 6 | | 2 | | | | 4 |
| Norway | 2 | 2 | | | | | |
| Sweden | 10 | 3 | | | | 3 | 4 |
| United Kingdom | 12 | 5 | 3 | 1 | | | 3 |
| Canada | 3 | 1 | 2 | | | | |
| United States | 7 | 1 | 1 | 2 | | | 3 |

*Source*: See Appendix.

[a] Figures may not add to total as some programmes have more than one period of entitlement.

### (d) *Magnitude of subsidy programmes*

Despite the large number of subsidy programmes that have been undertaken since the early 1970s there exists a dearth of published data concerning their magnitude and scope. Specifically, information on numbers of workers subsidized, their industrial and occupational characteristics and the amount of expenditure is for the most part not regularly published or not published at all. Table 1.4.6 provides some available data on the size of the programmes both in terms of numbers of workers affected, as well as their costs. To gauge the relative size of these schemes, subsidized workers as a proportion of the total unemployed and of the labour force has been calculated.

The table indicates that the size of programmes has fluctuated considerably over the years, reflecting in part the oscillations of the unemployment rate, but also the starting up and winding down of programmes, periods during which participation is low. According to the available data, subsidization has typically taken place on a small-scale, individual programmes generally not affecting more than 1–2 per cent of the labour force.[55] The most extensive programmes have been those in the Netherlands in 1978 and Sweden in 1976 where individual schemes subsidized the employment of 4.8 per cent and 4.0 per cent of the respective labour forces. Any discussion of trends in subsidized employment over time is constrained by the lack of data. The Federal Republic of Germany is one of the few countries to provide yearly data for

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[55] There is evidence to suggest that the take-up rate of subsidy schemes in several countries has fallen far short of the total number of places actually allotted. For example, in Finland, while almost 100 million marks were allocated in both 1979 and 1980 under the Support for Employment of Young Persons Programme, less than one-half of these amounts were actually spent. In the United Kingdom under the Youth Training Scheme introduced in 1983 instead of the 375,000 places out of a total of 460,000 that were expected to be filled by January 1984, only about 300,000 young people were recruited. It is expected that some £120 million will remain unspent. The reasons given for such shortfalls include: inadequate knowledge or ignorance of the programmes on the part of both prospective employees and employers, and the smallness of the subsidy which, in some cases, would not justify the additional paperwork required on the part of firms. More specifically for the Youth Training Scheme, an additional reason cited for lower than expected participation is the competition for recruits from the Young Workers Scheme whose target group is also young people.

TABLE 1.4.6

**Workers involved and costs of some wage subsidy programmes[a]**

| | | | 1975 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|
| Denmark | Employment of Youths by Private Employers[b] | Number of subsidized workers | | 2 | | |
| | | as % of unemployed workers | | 1.1 | | |
| | | as % of labour force | | 0.1 | | |
| | | Cost | | 15 | | |
| | Job Offer Scheme for Long-term Unemployed | Number of subsidized workers | | 11 | 25 | |
| | | as % of unemployed workers | | 6.0 | 9.8 | |
| | | as % of labour force | | 0.4 | 1.0 | |
| | | Cost | | 340 | 630 | |
| | Temporary Employment Subsidy | Number of subsidized workers | | 7[c] | | |
| | | as % of unemployed workers | | 4.3 | | |
| | | as % of labour force | | 0.3 | | |
| | | Cost | | 105 | | |
| Finland | Youth Employment Subsidy | Number of subsidized workers | 3[d] | 13 | 10 | |
| | | as % of unemployed workers | 2.2 | 11.6 | 6.7 | |
| | | as % of labour force | 0.1 | 0.6 | 0.4 | |
| | | Cost | 5 | 46 | 40 | |
| | Extra Employment Subsidy to Enterprises | Number of subsidized workers | | 15[c] | | |
| | | as % of unemployed workers | | 10.8 | | |
| | | as % of labour force | | 0.7 | | |
| France | Incentive Bonus for Job Creation | Number of subsidized workers | 92[e] | | | |
| | | as % of unemployed workers | 8.7 | | | |
| | | as % of labour force | 0.4 | | | |
| | National Employment Pacts | Number of subsidized workers | 553[f] | 469[g] | | |
| | | as % of unemployed workers | 51.5 | 33.4 | | |
| | | as % of labour force | 2.4 | 2.0 | | |
| | Plan Avenir Jeunes | Number of subsidized workers | | | 423[h] | |
| | | as % of unemployed workers | | | 23.7 | |
| | | as % of labour force | | | 1.8 | |
| Germany, Fed. Rep. of | Temporary Subsidy for Short-time Work | Number of subsidized workers | 773 | 137 | 347 | 606 |
| | | as % of unemployed workers | 71.9 | 15.4 | 27.3 | 33.0 |
| | | as % of labour force | 2.9 | 0.5 | 1.3 | 2.2 |
| | | Cost | 2207 | 471 | 1285 | 2216 |
| | Job Creation Subsidy for Hard-to-place People | Number of subsidized workers | 38 | 65 | 26 | |
| | | as % of unemployed workers | 3.5 | 7.3 | 2.0 | |
| | | as % of labour force | 0.1 | 0.2 | 0.1 | |
| | | Cost | 100 | 574 | 454 | |
| | Wage Cost Subsidy | Number of subsidized workers | 79[i] | | | |
| | | as % of unemployed workers | 9.5 | | | |
| | | as % of labour force | 0.8 | | | |
| | | Cost | 382 | | | |
| Ireland | Premium Employment Programme | Number of subsidized workers | 7[j] | | | |
| | | as % of unemployed workers | 7.8 | | | |
| | | as % of labour force | 0.6 | | | |
| | Employment Incentive Scheme | Number of subsidized workers | | 7[c] | | |
| | | as % of unemployed workers | | 8.2 | | |
| | | as % of labour force | | 0.6 | | |
| | | Cost | | 3[k] | | |
| Netherlands | Regional Investment Premium Scheme | Number of subsidized workers | 26[l] | | | |
| | | as % of unemployed workers | 2.0 | | | |
| | | as % of labour force | 0.1 | | | |
| | Aid From Employment Funds | Number of subsidized workers | 127[m] | | | |
| | | as % of unemployed workers | 15.6 | | | |
| | | as % of labour force | 0.6 | | | |
| | 30% Wage Cost Subsidy | Number of subsidized workers | | 3[c] | | |
| | | as % of unemployed workers | | 1.4 | | |
| | | as % of labour force | | 0.1 | | |
| | Wage Cost Subsidy for Young People | Number of subsidized workers | | 3[k] | | |
| | | as % of unemployed workers | | 1.5 | | |
| | | as % of labour force | | 0.1 | | |
| | Minimum Wage Subsidy | Number of subsidized workers | 99[n] | 247[k] | | |
| | | as % of unemployed workers | 46.9 | 120.0 | | |
| | | as % of labour force | 2.0 | 4.8 | | |
| Sweden | Employment Maintenance and Training Subsidy | Number of subsidized workers | 165[n] | | | |
| | | as % of unemployed workers | 250.0 | | | |
| | | as % of labour force | 4.0 | | | |
| | Employment With Wage Subsidy | Number of subsidized workers | | 30[o] | | |
| | | as % of unemployed workers | | 33.0 | | |
| | | as % of labour force | | 0.7 | | |

TABLE 1.4.6 (*continued*)

**Workers involved and costs of some wage subsidy programmes**[a]

| | | | 1975 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|
| Sweden (*continued*) | Temporary Youth Recruitment Subsidy | Number of subsidized workers | 12[p] | | | |
| | | as % of unemployed workers | 9.1 | | | |
| | | as % of labour force | 0.1 | | | |
| | Subsidy Scheme for Handicapped Workers | Number of subsidized workers | 8 | | | |
| | | as % of unemployed workers | 11.8 | | | |
| | | as % of labour force | 0.2 | | | |
| | Relief Work Scheme | Number of subsidized workers | | 32[q] | | |
| | | as % of unemployed workers | | 35.2 | | |
| | | as % of labour force | | 0.8 | | |
| United Kingdom | Temporary Employment Subsidy | Number of subsidized workers | 31[n r] | 63[c r] | | |
| | | as % of unemployed workers | 2.4 | 4.9 | | |
| | | as % of labour force | 0.1 | 0.2 | | |
| | | Cost | 3[s] | 41[t] | | |
| | Youth Opportunties Programme | Number of subsidized workers | | 216[f] | 360[u] | 553[v] |
| | | as % of unemployed workers | | 14.6 | 16.6 | 20.3 |
| | | as % of labour force | | 0.8 | 1.4 | 2.1 |
| | | Cost | | 123[t] | 185[u] | 413[v] |
| | Small Firms Employment Subsidy | Number of subsidized workers | | 26[r] | | |
| | | as % of unemployed workers | | 1.6 | | |
| | | as % of labour force | | 0.1 | | |
| | | Cost | | 11[u] | | |
| | Temporary Short-time Working Compensation Scheme | Number of subsidized workers | | 93[r] | 712[r] | 113[r] |
| | | as % of unemployed workers | | 5.6 | 26.6 | 3.9 |
| | | as % of labour force | | 0.4 | 2.7 | 0.4 |
| | | Cost | | 24[t] | 365[u] | 260[v] |
| Canada | Job Experience Training Programme | Number of subsidized workers | | 51[w] | | |
| | | as % of unemployed workers | | 5.8 | | |
| | | as % of labour force | | 0.5 | | |
| | Employment Tax Credit Programme | Number of subsidized workers | | 50[o] | | |
| | | as % of unemployed workers | | 5.9 | | |
| | | as % of labour force | | 0.4 | | |
| | | Cost | | 100 | | |
| United States | New Jobs Tax Credit | Number of subsidized workers | | 1142[k] | | |
| | | as % of unemployed workers | | 18.9 | | |
| | | as % of labour force | | 1.1 | | |
| | | Cost | | 4517 | | |
| | WIN-Welfare Tax Credit Programme | Number of subsidized workers | | 10[k] | | |
| | | as % of unemployed workers | | 0.2 | | |
| | | as % of labour force | | — | | |
| | | Cost | | 26 | | |

*Sources*: See Appendix

[a] Workers are in thousands, cost is in millions of national currency

[b] Approximately 90 per cent of workers are employed in the public sector

[c] 1979

[d] 1977

[e] 1975 1977

[f] July 1977-February 1978

[g] July 1980-June 1981

[h] July 1981 March 1982

[i] 1974/75.

[j] July 1975 September 1976.

[k] 1978.

[l] 1973-1978.

[m] 1975 1978.

[n] 1976.

[o] 1979 1980 fiscal year.

[p] 1976-1977

[q] 1978–1979 fiscal year.

[r] April.

[s] 1975/76.

[t] 1979/80.

[u] 1980/81.

[v] 1981/82.

[w] 1978/79

long-established programmes. One such programme, the Temporary Subsidy for Short-time Work, introduced in 1969, peaked in 1975, a year of recession when 773,000 workers or 2.9 per cent of the labour force were subsidized under this plan. This was a consequence of the severe contraction in employment that year which amounted to 750,000 workers. In the United Kingdom programmes have expanded over time, notably from 1980 onwards, when two schemes, the Youth Opportunities Programme and the Temporary Short-time Working Subsidy drastically expanded their intake of workers in response to severely contracting levels of employment.

An analysis of wage subsidies by industry is possible for only three countries: the Federal Republic of Germany, Ireland and the United Kingdom. Based on the limited data available it can be seen that subsidized employment has been concentrated in only a few industries. Table 1.4.7 indicates that more than half of all subsidized workers in the three countries are found in five industries. In the Federal Republic of Germany in 1975, 55 per cent of the jobs covered by the Temporary Subsidy for Short-time Work were in five industries covering 20 per cent of all employees. In 1982 there was only a small change: 54 per cent of subsidized workers were in industries employing 24 per cent of all employees. In both years metal-making was the most heavily subsidized sector: 16 per cent of all employees in the industry were being subsidized in 1975 and 18 per cent in 1982.[56] In Ireland under the Premium Employment Pro-

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[56] While textiles does not rank among the five industries receiving the largest share of subsidies, nevertheless, 10 per cent of workers in that industry in 1975 and 9 per cent in 1982 were subsidized.

### TABLE 1.4.7

### Distribution of subsidies by industry[a]

| Country | Share of subsidized workers | Share of all employees in employment[b c] | Subsidized workers in the industry as share of all employees | Share of subsidized workers | Share of all employees in employment[b c] | Subsidized workers in the industry as share of all employees | Share of subsidized workers | Share of all employees in employment[b c] | Subsidized workers in the industry as share of all employees |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Temporary Subsidy for Short-time Work 1975 (*Percentage*) | | | 1982 (*Percentage*) | | |
| Germany, Federal Republic of | | | | | | | | | |
| *Industry* | | | | | | | | | |
| Manufacture of non-electrical machinery | | | | 14.1 | 5.1 | 10.3 | 14.9 | 4.9 | 9.6 |
| Manufacture of electrical machinery and appliances | | | | 19.1 | 5.6 | 12.8 | 11.1 | 5.2 | 6.4 |
| Metal making | | | | 8.4 | 1.9 | 16.1 | 8.9 | 1.5 | 18.4 |
| Manufacture of chemicals | | | | 5.3 | 3.1 | 6.4 | | | |
| Manufacture of transport equipment | | | | 8.0 | 4.0 | 7.4 | 9.2 | 4.6 | 6.0 |
| Construction | | | | | | | 9.6 | 7.4 | 3.6 |
| Total | | | | 54.9 | 19.7 | | 53.7 | 23.6 | |
| | | | | Premium Employment Programme[d] (*Percentage*) | | | | | |
| Ireland | | | | | | | | | |
| *Industry* | | | | | | | | | |
| Textiles, clothing, footwear, leather | | | | 34.3 | | | | | |
| Metals, metal products, machinery | | | | 33.4 | | | | | |
| Food, drink, tobacco | | | | 8.4 | | | | | |
| Chemicals, rubber, plastics | | | | 8.5 | | | | | |
| Transport equipment | | | | 4.6 | | | | | |
| Total | | | | 89.2 | | | | | |
| | Temporary Employment Subsidy[i] (*Percentage*) | | | Small Firms Employment Subsidy[j] (*Percentage*) | | | Temporary Short-time Working Compensation Scheme[k] (*Percentage*) | | |
| United Kingdom | | | | | | | | | |
| *Industry* | | | | | | | | | |
| Textiles | 21.8 | 2.6 | 4.7 | | | | 11.2 | 1.8 | 8.9 |
| Clothing and footwear | 21.3 | 1.7 | 6.0 | 12.2 | 1.6 | 2.6 | | | |
| Engineering | 11.3 | 8.1 | 0.7 | 17.8 | 8.1 | 0.8 | 20.8 | 7.8 | 4.1 |
| Timber, furniture,etc. | 5.5 | 1.1 | 2.9 | 9.8 | 1.2 | 2.7 | | | |
| Paper, printing, publishing | 5.0 | 2.4 | 1.0 | | | | | | |
| Metal goods not classified elsewhere | | | | 10.6 | 2.4 | 1.6 | 10.1 | 2.4 | 6.2 |
| Construction | | | | 6.7 | 5.5 | 0.4 | | | |
| Vehicles | | | | | | | 12.7 | 3.1 | 5.7 |
| Metal manufacture | | | | | | | 11.7 | 1.8 | 9.1 |
| Total | 64.9 | 15.9 | | 57.1 | 18.8 | | 66.5 | 16.9 | |

*Sources*: Amtliche Nachrichten der Bundesanstalt für Arbeit, *Arbeitsstatistik 1978-Jahreszahlen*, Nürnberg 1979; Bundesministerium für Arbeit und Sozialordnung, *Bundesarbeitsblatt*, November 1983, Bonn; Brian Nolan, "An Examination of the Premium Employment Programme", *Central Bank of Ireland Annual Report, 1978*, Dublin, Department of Employment, *Employment Gazette*, various issues, HMSO, London.

[a] Five industries receiving largest share of subsidies

[b] June

[c] Includes only those workers covered under the social security system

[d] 1975/76

[e] Average for period 1975–1979

[f] Annual average

[g] Average for period 1978 1979

[h] Average for period 1979–1981

[i] 18 August 1975–31 March 1979

[j] 1 July 1978–30 June 1979

[k] 1 April 1979 31 March 1982

gramme five industries accounted for 89 per cent of all the subsidized jobs.[57] Similarly, in the United Kingdom under the Temporary Employment Subsidy, the Small Firms Employment Subsidy and the Temporary Short-time Working Compensation Scheme from one-half to two-thirds of the subsidized jobs have been in five sectors that together account for less than 20 per cent of total employees. Workers in textiles and metal manufacture, particularly hard-hit by import competition, have been among those most heavily subsidized by wage schemes in the United Kingdom as in the Federal Republic of Germany. Under the British Temporary Short-time Working Compensation Scheme, based upon estimated annual averages, roughly 9 per cent of all workers in textiles and metal-making have been subsidized. The clothing and footwear industry, while not among the five industries receiving the largest share of subsidies, has been subsidized to about the same extent as textiles and metal-making. Between 1979 and 1982 on an average annual basis about 9 per cent of workers in the industry have been subsidized. The figure of 9 per cent represents an increase in the average subsidization in the textiles and clothing and footwear industries since the discontinuation of the Temporary Employment Subsidy when 5 per cent of workers in textiles and 6 per cent in clothing and footwear had been subsidized.

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[57] Because of the greater level of aggregation, the data are not comparable to that of the other two countries in the table.

The incidence of wage subsidization, i.e. the proportion of workers covered within a particular industry is in large part determined by demand for the industry's output. Given shifts in product demand, the incidence of the four redundancy-averting schemes in table 1.4.7 (Ireland's Premium Employment Programme is of the incremental type) is positively related to the share of labour in total costs and the degree of international competition faced by firms. Textiles, clothing and footwear, metal-making and machine manufacture are labour-intensive industries and operate in highly competitive markets. This would help to explain the high incidence of subsidies in these sectors.

### (e) *Assessing the impact of wage subsidies*

It is extremely difficult to estimate the impact of wage subsidies as few countries have monitored the schemes in progress or have incorporated an evaluation component into them. Evaluations which have been undertaken have often relied upon sample surveys of employers who have received subsidies and where the respondents have an incentive to respond erroneously. Rather than attempting to assess either the employment, efficiency, inflationary or distributional effects, these evaluations have instead studied programme design, control and administration in order to improve the administrative effectiveness of the schemes. Nevertheless, some studies have attempted to calculate the real impact of subsidies by taking into consideration various factors such as "churning", displacement and deadweight costs. The results of some of these studies appear in table 1.4.8.

Perhaps not surprisingly in an area as complex as labour market policy, there is a wide range of results as to the employment effects of subsidies. The data suggest that the magnitude of the *net*[58] number of jobs created or preserved can vary from as low as 15 to 20 per cent of the *total number of subsidized jobs* in Federal Republic of Germany and France, to as high as 67 per cent in the United Kingdom. The difficulties inherent in quantifying the net employment effect is shown by the fact that one study using different assumptions disputed the

TABLE 1.4.8

**Net employment effect and costs of some subsidy programmes**

| | Estimated net number of jobs created or saved[a] | Net jobs created as % of total persons affected by programme | Net budgetary costs[b] | Budgetary costs per net job[c] |
|---|---|---|---|---|
| Ist National Employment Pact (France) | 50–140[d] | 15–40[d] | 3 000–3 100 | 22 000–61 000 |
| Incentive Bonus for Job Creation (France) | 27 | 30 | | |
| Wage Cost Subsidy (FRG) | 16–23 | 20–30 | 229 | 12 000 |
| Premium Employment Programme (Ireland) | 1.4–1.7 | 17–21 | | |
| Employment Maintenance and Training Subsidy (Sweden) | 84–101 | 38–46 | | |
| Temporary Employment Subsidy (UK) | 359<br>178 | 67<br>33 | | 625 |
| Small Firms Employment Subsidy (UK) | | 40 | | 1 500 |
| New Jobs Tax Credit (US) | | | | 14 000–17 000 |

*Sources*: International Labour Organization, *Marginal Employment Subsidies – Issues and Evidence*, World Employment Programme Working Papers, WEP2-24/WPIS, Geneva 1979; David Metcalf, *Alternatives to Unemployment: Special Employment Measures in Britain*, Policy Studies Institute, London, 1982; Peter Schwarse, "European Experience" in Robert Haveman and John Palmer, *Jobs for Disadvantaged Workers: The Economics of Employment Subsidies*, The Brookings Institute, Washington, D.C., 1982; Robert Tannenwald, "Are Wage and Training Subsidies Cost Effective? - Some Evidence from the New Jobs Tax Credit", *New England Economic Review*, Federal Reserve Bank of Boston, September/October 1982, pp. 25-34.

[a] Thousands
[b] Millions of national currency
[c] National currency
[d] Only persons affected by "exonerations" and "stages pratiques"

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[58] Calculated by imputing values for deadweight costs and displacement effects.

figure of 67 per cent for the British Temporary Employment Subsidy and presented an alternative estimate of only 33 per cent.[59]

The purpose of establishing the net employment effect and net budgetary costs,[60] *ceteris paribus*, is to compare wage subsidies with other instruments of labour policy such as direct job creation in the public sector, a general fiscal stimulus or investment subsidies. Given the lack of such comparative studies, interpreting the data in table 1.4.8 is a precarious exercise. Furthermore, because of the highly divergent and sometimes questionable underlying assumptions and methodologies of the studies, the data must be viewed with a great deal of caution. In the studies of the Federal Republic of Germany and France, regression techniques were used to derive statistical estimates, whereas the other evaluations were based on enterprise surveys.

Another possible avenue of analysis involves a comparison of subsidy payments to unemployment benefits in order to determine the relative costs of subsidized workers. In table 1.4.9 those subsidy schemes wherein a determination of the payments on an annual basis could be made are presented as a percentage of the yearly unemployment benefit for a single person. Based on the available data the cost of subsidizing a worker has involved less costs than providing unemployment benefits, with the exception of the Youth Training Scheme and Youth Opportunities Programme in the United Kingdom where the subsidy payment was equivalent to the unemployment benefit. The percentages appearing in the table may be overestimated to some extent in those countries which tax the earnings of subsidized workers and thus would lower the costs to governments of wage subsidization. Furthermore, the subsidized worker is receiving training and experience as well as contributing to output, benefits which do not accrue to those receiving unemployment benefits.

### (f) *Conclusions*

The preceding sections have shown that while wage subsidization has become a common tool of employment policy in the market economies of the ECE region, little is known of their effects or real costs. This is in part due to the difficulty of establishing a reliable and comprehensive methodology for programme evaluation. It should also be noted that wage subsidies, as with other policies, are not always motivated purely by budget-cost minimization or other economic criteria, but also by political and social considerations. Tensions build up within a society as a consequence of high unemployment and to some extent these may be attenuated by the introduction of job-creating subsidies.

TABLE 1.4.9

**Costs of subsidies compared to costs of unemployment insurance**[a]

| | Subsidies as a percentage of unemployment benefits |
|---|---|
| Employment Premiums (Belgium) | 78 |
| Youth Employment Subsidy (Finland) | 43–76 |
| Employment and Training Schemes (France) | 25 |
| Employment Incentive Scheme (Ireland) | 18–26 |
| Wage Cost Subsidy for Young People (Netherlands) | 43 |
| Job Subsidies for Apprenticeships (Netherlands) | 8–16 |
| Temporary Recruitment Grant (Sweden) | 19–57 |
| Youth Opportunities Programme (UK) | 100 |
| Temporary Employment Subsidy (UK) | 65 |
| Youth Training Scheme (UK) | 100 |
| Employment Tax Credit Programme (Canada) | 48 |

*Source*: Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 35, No. 3, September 1983, Pergamon Press for United Nations, pp. 289-306.

[a] Unemployment benefits for single manual worker in manufacturing

Because of the lack of data, it can only be said with great caution that subsidy programmes may have achieved their primary objective, which is to lower unemployment, although to what extent these have done so is unknown. Furthermore, such programmes may be in conflict with other policies such as schemes to raise investment. With wage subsidies lowering the price of labour relative to that of capital and investment subsidies seeking to decrease the relative cost of capital, these two types of employment stimuli could, in principle, offset one another. Warranting more attention are a number of issues which have been raised; for example, lower productivity growth as an inevitable consequence of subsidization by promoting greater employment at a given level of output; labour supply responses to subsidies that may increase measured unemployment by encouraging re-entry into the labour force of discouraged workers; redundancy-averting schemes which may postpone desired structural adjustments;[61] and the eventual impact of subsidies on the price level and the inflation rate.

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[59] David Metcalf, *Alternatives to Unemployment: Special Employment Measures in Britain*, Policy Studies Institute, London, 1982, p. 10.

[60] Net budgetary costs are generally 60 to 80 per cent of gross costs because of increased savings resulting from fewer workers collecting unemployment benefits and the maintenance of income tax revenues from the subsidized workers.

[61] One possible modification to such schemes would be to make them available only to firms faced with the prospect of layoffs during periods of high unemployment in the economy when the likelihood of unemployed workers finding jobs is greatly reduced. With congestion in local labour markets due to rising layoffs, the release of excess workers into the job market could be spread over time by temporarily subsidizing employment. This has been suggested by Donald O. Parsons, "Unemployment, the Allocation of Labor, and Optimal Government Intervention", *American Economic Review*, Volume 70, No. 4, September 1980, pp. 626–635.

APPENDIX TABLE 1.4.1

**Inventory of major employment subsidy programmes in western Europe and North America, 1967–1983**

| Country | Programme | Objective | Eligible employee | Eligible employer | Subsidy: Amount | Subsidy: Length of time |
|---|---|---|---|---|---|---|
| Belgium | Subsidy for Training in Enterprises (1975/77) | To provide training and practical experience; worker must not be laid off for 6 months after the end of training period | Graduates from secondary and higher education who are under 25 years of age and are registered as unemployed | Private employers | Subsidy equal to the unemployment benefit | 6 months |
| | Training Subsidies for Young People (introduced in 1976, modified in 1981,1982) | Recruitment; firms with 50 or more employees are required to take on "stagiaires" in numbers equal to 3 % of firms' labour force | Those under 30 years of age and unemployed for 6 months | Private employers | Firm receives subsidy equal to 90% of normal wages paid; 50,000 B.Fr. is paid for each extra trainee exceeding the 3% minimum | Up to 12 months |
| | Temporary Exemptions from Social Security Charges (introduced in 1977, modified in 1982) | Incremental; new employees must be employed on a permanent contract | Youths registered as unemployed; later extended to older persons | Private employers | Exemption from social security charges | Up to 2 1/2 years |
| | Employment Premiums (introduced in 1980) | Incremental; must increase number employed and reduce work week to 38 hours | Long-term unemployed | Private employers | Firms receive up to 300,000 B.Fr. per year per worker | Up to 5 years |
| | Employment Programme for the Private Sector (introduced in 1981) | Recruitment; work must be useful to the community | Long-term unemployed | Private employers | Reduced gradually from 95% of wages in the lst year to 50% in the 5th year | 5 years |
| | Recruitment Subsidy for Small and Medium Sized Enterprises (introduced in 1983) | Recruitment | Unemployed workers | Enterprises with 3–100 employees | Employer must pay a salary equal to that of workers in public works projects, for which he is reimbursed | 2 years |
| Denmark | Temporary Employment Subsidy | Creation of additional apprenticeships and traineeships | | Private employers | 16 D.Kr. per hour up to a maximum of 16,000 D.Kr. | |
| | Employment of Youths by Private Enterprises (introduced in 1977) | Incremental | Youths unemployed for at least 3 months | Private employers | Under 18 years of age, 14 D.Kr. per hour; over 18, 20 D.Kr. per hour for first 13 weeks then 14 D.Kr. per hour | Up to 52 weeks |
| | Job Offer Scheme for Long-term Unemployed (introduced in 1978) | Incremental; creation of permanent jobs | Long-term unemployed who are nearing exhaustion of unemployment benefits | Private employers; if no job is found it is responsibility of municipality to employ person (90% of people have been employed by municipalities) | 30 D.Kr. per hour | 9 months |
| | Job Creation Act (introduced in 1982) | Recruitment; creation of new jobs | Unemployed people between 18 and 25 years of age | Public and private employers | 80% of maximum daily cash benefits or 60% of the average hourly wage | |

Appendix Table 1.4.1 (*continued*)

| Country | Programme | Objective | Eligible employee | Eligible employer | Subsidy | |
|---|---|---|---|---|---|---|
| | | | | | Amount | Length of time |
| Denmark (*continued*) | Act on Apprenticeships and Traineeships (introduced in 1982) | Recruitment; creation of new training places | Trainees, apprentices and students undergoing basic education | Private employers | 30,000 D.Kr. per place | Variable |
| Finland | Counter Cyclical Employment Subsidy 1976/77) | Redundancy averting | No restrictions | Private employers; industrial and other firm in risk of laying off personnel or shortening the work week | Firms received 51 marks per person per working day | Not specified |
| | Youth Employment Subsidy (introduced in 1977) | Recruitment; to provide permanent employment | Long-term unemployed youth | Public and private employers | 750 marks a month per apprentice; 420 marks a month per trainee | 12 months |
| | Subsidies for Hiring Handicapped Persons (introduced in 1978) | Recruitment; to promote the placement of handicapped persons | Handicapped persons | Public and private employers | 35% of employees salary for first 12 months; 20% for following 6 months | 18 months |
| | Extra Employment Subsidies to Enterprises (1979/80) | Incremental; must offer permanent employment | Unemployed workers registered with a manpower office | Private employers | 6000 marks per person hired between March and April 1979; 3000 per person hired between May and June 1979 | Not specified |
| France | Subsidy for Short-time Work (introduced in 1975) | Redundancy averting | No restrictions | Private employers | Employer pays approximately 1/2 of the wages for hours of work lost, 80% of which is reimbursed | 6 months |
| | Incentive Bonus for Job Creation (1975/77) | Recruitment; job had to be made available by retirement or by creating new job | Youths under 25 years of age or long-term registered unemployed (more than 6 months) | Private employers; later limited to crafts industries | 300–500 F.Frs. per month | 6 months (but employment had to last at least 1 year) |
| | Employment Training Contracts (1975–77) | Incremental | Youths | Private employers | 30% of minimum wage; 100% of wages for 2 months of training plus partial reimbursement of training costs | Up to 12 months |
| | National Employment Pacts[a]<br>First Pact (1977) | Recruitment; vacancy had to be filled or new job created (included training component) | Youths under the age of 25 who had finished schooling or national service within the preceding year | Private employers; temporary work agencies excluded | Exemption of 100% of employers' social security taxes | Up to 2 years |
| | Second Pact (1978) | Recruitment; however, each firm could claim only as many exemptions as number of jobs created (included training component) | Youths between the ages of 18 and 26 and certain categories of women, i.e. heads of families and labour force re-entrants | Private employers; firms with workforce of less than 500 and turnover of under 100 million F.Fr. | Exemption of 50% of employers' social security taxes; 100% for new apprentices | Fixed 12-month period |
| | Third Pact (1979–81) | Recruitment; however, each plant (rather than firm) could only claim as many exemptions as number of jobs created (included training component) | Youths under the age of 26 (minimum age requirement dropped) and the same categories of women as above | Private employers | Exemption of 50% of employers' social security taxes; 100% for new apprentices | Fixed 12-month period |
| | Plan Avenir Jeunes (introduced in 1981) | Recruitment; includes training | Youths under the age of 26 as well as unemployed over 45 years of age | Private employers | Exemption of 50% of employers social security taxes; 100% for new new apprentices | Up to 2 years |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Creation of Socially Useful Employment | To give initial assistance to projects in order that they eventually become self-sufficient | Unemployed with emphasis on youth | Private employers providing "new" goods and services | Up to 24,000 F.Frs. per job created | |
| | Employment and Training Schemes (introduced in 1982) | Recruitment and training | Unemployed youths under 18 years of age | Private employers | Trainee receives 500 F.Frs. for first 6 months; 700 F.Frs. for following months; exemption from employer's social security contribution for 1 year | 6 months-2 years |
| Germany, Federal Republic of | Temporary Subsidy for Short-time Work (introduced in 1969) | Redundancy-averting, to compensate for earnings lost during short-time work | Workers threatened with redundancy | Private employer; must demonstrate that short-time work is unavoidable for economic reasons and temporary | Worker receives 68% of net wages lost | 4 weeks to 18 months (up to 24 months in areas of high unemployment) |
| | Job Creation Subsidy for Hard-to-Place People (introduced in 1973, amended in 1979) | To promote the hiring of unemployed who are difficult to place, by training | Long-term unemployed, older people, handicapped, young people without professional skills | Private employers | Up to 80% of wages paid during the starting period | Up to 2 years |
| | Wage Cost Subsidy (1974–1975) | Incremental | Workers registered as unemployed for at least 3 months | Private employers in high unemployment regions | 60% of wages paid | 6 months |
| | Special Programme for Regions with Severe Unemployment (introduced in 1979) | Recruitment and/or incremental with emphasis on training and retraining | No restrictions | Private employers in high unemployment regions | Up to 100% of wages paid | Up to 24 months |
| Ireland | Premium Employment Programme (1975/77) | Incremental; the increase over the base level had to be maintained for at least 4 weeks; base readjusted monthly if employment increased more than 10 employees or 10 per cent of original work force | Those unemployed during the 4 weeks preceding work and in receipt of unemployment benefit at some point since June 1974, or attending certain training courses, or on short time | Private employers in agriculture and manufacturing industry | Employer received flat weekly rates which varied during course of programme (£7.50–15); equivalent to 15–20% of average male earnings; 25–40% of average female earnings | 18 months |
| | Employment Maintenance Scheme (1978–1980) | Redundancy averting; firms had to show evidence of need to qualify for benefits | Workers insured under the Social Welfare Acts | Private employers; firms with 10 or more qualified workers in industries vulnerable to unemployment (clothing, textiles, footwear) | £5 per week per employee | Not stipulated |
| | Employment Incentive Scheme (introduced in 1979, revised 1982)[b] | Incremental; subsidies granted for employment over a base level, which varies according to the industry | Unemployed persons receiving unemployment benefits or school leavers under the age of 25 seeking first job | Private employers; manufacturing, agriculture, building and construction, hotel and catering industries plus some other parts of the service sector | £20 per week per employee for unemployed persons; £14 per week per employee for school leavers | 52 weeks |
| Italy | Subsidy to Promote the Hiring of Young People | Recruitment | Young people under 24 years of age | Private employers | Variable depending on sector and region | Up to 18 months |

APPENDIX TABLE 1.4.1 *(continued)*

| Country | Programme | Objective | Eligible employee | Eligible employer | Subsidy |  |
|---|---|---|---|---|---|---|
|  |  |  |  |  | Amount | Length of time |
| Netherlands | Regional Investment Premium Schemes (introduced in 1973) | Incremental | No restrictions | Private employers; firms establishing themselves or expanding in designated developing areas | Fls. 12,500 per permanent job created (in combination with an investment subsidy) | Not stipulated |
|  | Aid From Employment Funds (introduced in 1974) | Redundancy averting | No restrictions | Private employers; firms in regions with at least 7% unemployment or in risk of making at least 1,000 workers redundant (later reduced to 500) | Fls. 15,000 per job rising to Fls. 30,000 if unemployment rate was high; later these stipulations eliminated so that there was not a strong correlation between level of unemployment and amount of support | Not stipulated |
|  | Job Placement Schemes (introduced in 1975) |  |  |  |  |  |
|  | (a) 30% Wage Cost Subsidy | Recruitment | Persons unemployed longer than 6 months or older than 45 years | Private employers | 30% of wages of each person recruited | 26 weeks for those under 45 and 12 months for those over 45 |
|  | (b) Wage Cost Subsidy for Young People | Recruitment | Youths between ages of 17 and 23 who have been unemployed for 6 months | Private employers | Fls. 650 per month | 12 months |
|  | Minimum Wage Subsidy (introduced in 1976) | Redundancy averting | Workers earning up to 5% above the minimum wage | Private employers; enterprises in which the minimum wage payroll was at least 10% of the total person payroll in March 1976 | Lump sum subsidy of Fls. 570 for each adult and Fls. 428 for each under 23 earning the minimum wage; in 1978 these subsidies represented about 2.5% for each employee | Not stipulated |
|  | Subsidies to Promote Part-time Work (introduced in 1980, on an experimental basis) | Recruitment, cannot result in the loss of employment | Employees of the firm or those registered as unemployed who live in one of 6 districts (Almelo, Breda, Gouda, Groningen, Maastricht, Nijmegen) | Private employers in one of 6 districts | Firm receives Fls. 2,500 per job created up to maximum of 20; employee receives subsidy of 60% of the foregone wage for 1st 6 months and 30% for the 2nd 6 months | 12 months |
|  | Job Subsidies for Apprenticeships (introduced in 1982) | Recruitment | Apprentices under the age of 23 | Private employers | Firm receives Fls. 2,000 a year for each apprentice, increased to Fls. 4,000 if industry sector concerned sets up or already has training fund or if industry agrees to recruit 40% more apprentices than in 1981 | Not stipulated |

| | | | | | | |
|---|---|---|---|---|---|---|
| Norway | Financial Support for the Employment of Young People (introduced in 1975) | Recruitment; must not replace other workers | Youths under 18 | Private employers, mostly in manufacturing, retail, warehouses | N.Kr. 2,000 | 12 weeks |
| | Financial Support for In-company Training of Young People (introduced in 1975) | Recruitment; to encourage companies to hire and provide relevant training | Youths under 20 who have not had formal training | Private employers | Companies receive operating expenses; employees paid daily allowance of 34 N.Kr. | 3 months |
| Sweden | Employment with Wage Subsidy (introduced in 1967) | Recruitment | Handicapped and other hard to place workers | Public and private employers | Private employers; municipalities, country councils and state-owned public utilities receive 75% wage subsidy for the 1st year, 50% for the 2nd year and 25% for 3rd and 4th years; higher subsidies may be paid for handicapped persons under age 25; public authorities and social insurance services received wage subsidies of 100% and public utilities 90% for 4 years | 4 years; but can be extended in special cases |
| | Employment Premium to Industrial Enterprises (introduced in 1970, became permanent in 1974) | Incremental; the increase in employment is based on highest annual level of employment in previous 3 years | No restrictions | Private employers; industrial firms in designated development areas; later both the types of firms and the development areas were extended | Equal to 20–30% of average wage cost for one man-year; level and geographical differentiation increased in 1979 | 3-7 years |
| | Relief Work Scheme (introduced in 1972) | Recruitment and incremental; must be connected with project brought forward or expanded | Unemployed workers | Public and private employers | 100% of wage costs for government relief projects; 75% of wage costs for private and municipal relief projects | Not specified |
| | Regional Employment Growth Subsidy | Incremental | No restrictions | Employers in development regions | 11% of wage costs for 1st 2 years; 5.5% for 3rd year | 3 years |
| | Subsidy Scheme for Handicapped Workers | Recruitment | Handicapped workers | Private employers | Up to 40% of gross wages | |
| | Employment Maintenance and Training Subsidy (introduced in 1974, modified in 1977) | Redundancy-averting | Workers at risk of being laid off | Private employers | Employer receives 65% of gross wage paid for each retained worker | 6 months |
| | Temporary Youth Recruitment Subsidy (introduced in 1976) | Incremental | Unemployed workers under 20 years of age | Private employers | 75% of wage costs up to maximum of S.Kr. 10 per hour | 3 months |
| | Wage Subsidies for Older Workers (introduced in 1977) | Redundancy-averting | Workers 50 years of age or more | Clothing and textile industry | 40% of gross wages | |
| | Subsidy Scheme for Specialized Workers (introduced in 1977) | Redundancy averting | Those facing layoffs | Iron, steel and engineering industry | 75% of wage costs | |

### APPENDIX TABLE 1.4.1 *(continued)*

| Country | Programme | Objective | Eligible employee | Eligible employer | Subsidy: Amount | Subsidy: Length of time |
|---|---|---|---|---|---|---|
| Sweden *(continued)* | Temporary Recruitment Grant (1978/79) | Incremental; increases in employment had to be maintained for the duration of grant and until June 1979 | No restrictions | Private employers; firms in manufacturing, distributive trades and private services | S.Kr. 12,000 for each additional person hired in 3rd quarter 1978 (equal to average wage cost for just over one month); S.Kr.8,000 for each additional person hired in 4th quarter of 1978; and S.Kr.4,000 for each additional person hired in 1st quarter 1979 | Variable, depending on date of hiring |
| | Wage Subsidy (to be introduced in 1984) | Recruitment; to bring forward the hiring of new staff | Young people and long-term unemployed | 50% of wage costs | 6 months | |
| United Kingdom | Regional Employment Premium (1967/77) | To stimulate manufacturing production in depressed areas | No restrictions | Industries in development areas | Flat-rate subsidy for all employed workers, varying with sex and age | |
| | Recruitment Subsidy for School Leavers (1975/76) | Recruitment | School leavers under 20 years of age with not more than 6 weeks work experience | Private employers | Employer received £5 a week per worker | 6 months |
| | Temporary Employment Subsidy (1975/79) | Redundancy-averting | No restrictions | Private employers; initially in assisted areas, later this restriction removed; a minimum of 10 workers must be threatened with redundancy | Firm received £20 per week for 1st 12 months (equivalent to 30%–40% of average manufacturing labour costs); £10 per week for additional 6 months | 18 months |
| | Youth Employment Subsidy (1976/78)[c] | Recruitment | Persons under 20 years of age registered as unemployed for at least 6 months | Private employers and nationalised industries | Firm received £10 per week per worker | 26 weeks |
| | Small Firms Employment Subsidy (1977/80)[d] | Incremental | No restrictions | Private employers; manufacturing firms with less than 50 employees "assisted areas"; later extended to firms with up to 200 employees | Firm received £20 per week (equivalent in to 30% of average manufacturing wage) | 26 weeks |
| | Adult Employment Subsidy (1978/79) | Recruitment | Adult workers unemployed for at least 12 months | Private employers | Employer received £20 per week | 26 weeks |
| | Short-time Working Compensation Scheme (1978/79) | Redundancy-averting by encouraging work sharing | No restrictions | Textile clothing and footwear industries | 75% of worker's normal pay plus related National Insurance contributions | Not specified |
| | Youth Opportunities Programme (1978/82)[e] | Recruitment | Unemployed youth with priority for school leavers | Public and private employers | Young person receives £25 a week tax free; sponsor is paid for administration and some overheads | 1 year |

| | | | | | | |
|---|---|---|---|---|---|---|
| United Kingdom (*continued*) | Temporary Short-time Working Compensation Scheme (1979/84)[f] | Redundancy averting by encouraging work sharing | 19–24-year-olds unemployed for 6 months and older workers unemployed for 12 months | Private employers | Employees must receive 75% of their normal pay for days without work for which employers are reimbursed 1/2 including half of the National Insurance contributions. For applications received after Nov. 1980 subsidy reduced to 50% | 6–12 months (depending on date application was received) |
| United Kingdom | Young Workers' Scheme (introduced in 1982) | Recruitment | Young workers under 18 years of age | Private employers | Employers receive £15 a week for workers with gross earnings below £40 a week; £7.50 for workers with gross earnings of £40–£45 a week | 12 months |
| | Youth Training Scheme (introduced in 1983)[g] | Provision of work-related training | Young people | Private employers | Employer receives £1950 per trainee | 12 months |
| | Job Splitting Scheme (introduced in 1983) | Recruitment or redundancy averting; splitting of job can result in recruitment of unemployed person or prevent employee from becoming redundant | Unemployed worker or employee facing redundancy | Private employers | Grant of £750 paid to employer per split job | |
| Canada | Manpower Industrial Training Programme (introduced in 1974) | Recruitment and redundancy averting; for on-the-job training | Those employed through manpower centres | Private employers | Employer reimbursed percentage of wage costs (varying from 40%–85%) | Up to 52 weeks |
| | Job Experience Training Programme (1977/79) | Incremental; employers agreed to consider participants for permanent employment at end of training period | Those under 25 years of age registered as unemployed for at least 3 months and with little prospect of finding regular employment | Private employers | 50% of hourly wage up to $1.50, subject to a maximum of $1,560 per employee | 26 weeks |
| | Employment Tax Credit Programme (introduced in 1979)[h] | Incremental | Persons registered as unemployed for at least 2 weeks | Private employers; any business except temporary work agencies and firms in existence less than 6 months | Tax credit to firm ranging from $1.50 to $2.00 an hour depending on region; taxable with a pre-tax value per person of $4,160 | 12 months |
| United States | Job Opportunities in the Business Sector (1968/73) | Recruitment | Disadvantaged, unemployed workers | Private employers | | |
| | WIN-Welfare Tax Credit Programme (introduced permanently in 1971) | Recruitment; employer must retain employee for at least 30 consecutive days | Public assistance recipients | Private employers | Employer receives tax credit of 50% of 1st year's wage (up to $6,000) and 25% of 2nd year's wages (up to $6,000); credit of 35% of 1st $6,000 for employers of non-business (household) employees | 2 years (1 year for household employee) |
| | Earned Income Tax Credit (introduced in 1974) | Recruitment | Low income worker supporting children under 18 | Public and private employers | Worker receives 10% of first $4000 of earnings | |

## APPENDIX TABLE 1.4.1 (*continued*)

| Country | Programme | Objective | Eligible employee | Eligible employer | Subsidy | |
|---|---|---|---|---|---|---|
| | | | | | Amount | Length of time |
| United States (*continued*) | New Jobs Tax Credit (1977/78) | Incremental; applied to increases above 102% of previous year's wage base | No restrictions | Private employers | Employer receives tax credit of 50% of lst $4,200 paid to each additional worker; 60% for handicapped workers | 1 year |
| | Youth Incentive Entitlement Pilot Projects (1978/80) | Recruitment | Economically disadvantaged youth, aged 16–19 years | Private and public employers; 17 designated areas in which the entitlement project is established | 100% wage subsidy; experimental programme guaranteeing youths a part-time job during school year and full-time job in summer | Variable |
| | Targeted Jobs Tax Credit (introduced in 1979)[i] | Recruitment; however, restrictions to limit the displacement of non-targeted workers | Public assistance recipients, handicapped, Vietnam veterans, youth | Private employers | Employer receives tax credit of 50% of the lst year's wages (up to $6,000) and 25% of the 2nd year's wages (up to $6,000) | 2 years |
| | Summer Targeted Jobs Tax Credit (introduced in 1983) | Recruitment; for summer employment | Economically disadvantaged youths aged 16–17 years of age | Private employers | Employer receives tax credit for 85% of wages (up to $3,000) | Summer |

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[a] Replaced Incentive Bonus for Job Creation and Employment and Training Contracts
[b] Replaced Premium Employment Programme
[c] Replaced Recruitment Subsidy for School-leavers
[d] Replaced Regional Employment Premium
[e] Replaced Youth Employment Subsidy
[f] Replaced Temporary Employment Subsidy
[g] Replaced Youth Opportunities Programme
[h] Replaced Job Experience Training Programme
[i] Replaced New Jobs Tax Credit

## 1.5 THE DEMAND FOR CAPITAL, LABOUR AND ENERGY IN MANUFACTURING INDUSTRY BEFORE AND AFTER THE OIL SHOCKS

### (i) Introduction

The implications for industrial production of the sharp rise in energy prices that followed the oil price shock in 1973/74 depend, *inter alia*, on the inter-relationship between energy and the other factor inputs used by industry to produce a given quantity of goods and services. The industrial response to changes in relative input prices is indicated by the demand and substitution elasticities for these inputs. There is thus a direct link between two major economic questions: namely, the extent to which the western economies can reduce their energy consumption and the possibility of a return to the rates of output growth that were experienced before the oil shocks. The following note attempts to estimate these demand and substitution elasticities for nine west European countries[62] and the United States and examines whether they have changed since 1973. The first section provides a general background and places the topic in the context of the economic policy issues related to the sharp rise in energy prices. This is followed by a brief description of the general approach adopted to measure the responsiveness of factor demand to changes in factor prices. (A more detailed exposition of the underlying model is given in the Technical Appendix.) The third section discusses some of the results obtained in previous studies done elsewhere. In section four the demand and substitution elasticities for capital, labour and energy before and after 1973, as estimated in this study, are presented and discussed. The last section summarizes the findings and discusses some of the policy implications.

### (ii) The background

During the 1970s the world economy was subject to two major oil price shocks which led to considerable increases in the prices of energy products used by industry. It is a widely held view that the sharp rises in energy prices had important negative consequences for the growth performance of the western economies, *inter alia* by contributing to higher rates of inflation and lowering the level of potential output. It has furthermore been claimed that the rise in energy prices was a major factor behind the recent slowdown in productivity growth.

Basically, the underlying argument was that although energy constitutes only a small proportion of total costs, the sharp price increases for this factor may nevertheless affect the other inputs (capital, labour) and consequently lead to a more than proportional fall in output and productivity growth. The procedure chosen to demonstrate this for the United States was to take a regression equation which relates productivity growth to changes in the capital-labour ratio and the rate of technical progress and add a third variable, namely the price of energy.[63] The results were highly significant and showed that the higher price had had a major impact on productivity. In last year's *Survey* the same procedure was adopted to examine the impact of energy price changes on productivity growth in the manufacturing industry of the west European countries. The results obtained were mixed. From the cross-country analysis it was found that inter-country differences in productivity growth appear to be unrelated to inter-country differences in the change in the relative price of energy. In contrast, the time-series analysis for individual countries suggested that the energy price played an important role. The difficulty, however, with such an approach is that the results may not reflect an underlying causal relationship but simply a spurious correlation between productivity growth and energy price changes. Or, in other words, the exclusion from the statistical analysis of other important factors impinging on productivity growth (e.g. the persistently low level of demand for goods after 1973) will lead to strongly upward-biased estimates of the role of energy price changes.[64]

Clearly, the effects of higher energy prices on industrial output depend on the degree of flexibility which firms have in using this particular input. It is a trivial statement that in modern societies energy is an essential factor in producing goods and services, i.e. "nothing goes" without energy. Yet the important question is to what extent energy can be rendered *less* essential for producing a given level of output. How can the level of energy input be reduced without endangering future growth prospects? To what extent is it possible to substitute capital and labour for energy and how will the demand for energy react to changes in its own price? What is the importance of changing energy prices on the level of industry's total costs?

Quantitative answers to these questions are important, not only for the design of industrial and stabilization policies, but also for rational energy conservation policies and for projections of future energy demand. If, for example, there is only a limited degree of substitutability between capital and energy then any attempt to stimulate investments will lead to higher energy demand and may thus run counter to policies designed to keep energy consumption below a certain level. Furthermore, if the demand for energy is sensitive to changes in its relative price, then it may be misleading to base projections of future energy demand on simple energy/output ratios. It is thus important to explore the characteristics of energy demand and the inter-relationships that exist between this factor and other inputs used by industry.

In a general way, the demand for factor inputs (capital, labour, materials, and energy) can be characterized as a derived demand, i.e. a demand which is derived from the demand for goods which a firm produces. It is a standard assumption in economic theory that firms combine inputs in such a way as to produce a given output at minimum cost. Therefore the demand for factor inputs is dependent upon the quantity of goods produced, the relative factor input prices and the possibilities of substitution among the various inputs. These substitution possibilities in turn reflect the state of technology and they may, of course, change over time, depending on the nature of technical progress.

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[62] Belgium, Finland, France, the Federal Republic of Germany, Italy, the Netherlands, Norway, Sweden and the United Kingdom

[63] See e.g. J.A Tatom, "Potential Output and the Recent Productivity Decline", *Federal Reserve Bank of St. Louis Review*, January 1982, vol. 64, No. 1, pp. 3-16, and R.H. Rasche, J.A. Tatom, 'Energy Resources and Potential GNP", *Federal Reserve Bank of St. Louis Review*, June 1977, pp. 10-24

[64] For an assessment of the role of energy and other factors in the recent slowdown of productivity growth see Economic Commission for Europe, *Economic Survey of Europe in 1982*, United Nations, New York, 1983, pp. 36-53

The focus of this note is on the economic relationship between the demand for energy on the one hand and for capital and labour on the other in total manufacturing industry in ten market-economy countries (see above) of the ECE region. The examination is based on annual data for the period 1960–1980.

Looking back over these 20 years it is possible to distinguish between two "energy price régimes", namely before and after 1973. This can be seen clearly from table 1.5.1 which shows the basic trends in prices for electricity and fuels (coal, gas, and fuel oils), together with prices for other factor inputs, namely capital and labour. The price of labour is measured by hourly labour costs in manufacturing industry and the user cost of capital is calculated as a weighted average of the service price of machinery and structures respectively. For each year the service price of each asset type was obtained by the formula $P_K = q (r + d)$, where q is the price index of machinery on structures, r is the long-term interest rate and d denotes the depreciation rate. All energy input prices are expressed in terms of currency units per ton of oil equivalent. (For more details see the Technical Appendix.)

Two interesting features of table 1.5.1 may be noted. Firstly, the price of electricity rose much less after 1973 than the price of fuels. Secondly, the price of labour rose on average at about twice the rate of the price of capital over the period 1960–1973 whereas after 1973 the price increases for these two factors tended to be more similar. In fact, in a few countries capital costs then rose faster than labour costs, reflecting the impact on capital goods prices of rising inflation rates and the increase in interest rates.

Given these changes in relative factor prices it is natural to examine whether, and to what degree, the demand and substitution elasticities for the production factors have changed between these two periods. This is an important issue because the measured industrial response to relatively *small* price changes (as was the case in the period 1960–1972) cannot necessarily be extrapolated to a period of sharply rising energy prices. Thus, for example, suppose that energy and capital are found to be complementary before the oil price shock. This implies that a rise in the price of energy not only leads to a fall in the demand for this particular input but also to a lower demand for capital goods.[65] In other words, there is no substitution of capital for energy as a result of changing energy prices. However, it remains an open question whether such a relationship between these two inputs could be expected to persist in the presence of very large changes in relative prices. Hence there is a danger that policy recommendations based on findings applicable to the years prior to 1973 may be quite misleading. Hence the importance of analysing the years after 1973.

It is evident that the industrial response to changes in relative factor prices may vary according to the level of aggregation at which this response is measured. For an international study such as the one presented here, it is, however, virtually impossible to descend below the level of total manufacturing industry because of the intricate data required by this sort of analysis. Therefore all results reported here refer to *total* manufacturing industry, but it should be borne in mind that the individual branches which compose this aggregate may on occasion exhibit behaviour which deviates distinctly from the "average".

TABLE 1.5.1

**Trends in factor prices in manufacturing industry**[a]
(*Average annual rates of growth*)

| | | Capital | Labour | Electricity | Fuels[b] |
|---|---|---|---|---|---|
| Belgium | 1960–1973 | 5.2 | 11.2 | 1.9 | — |
| | 1973–1980 | 11.0 | 13.7 | 11.6 | 23.0 |
| Finland | 1960–1973 | 8.7 | 11.8 | 2.6 | 4.8 |
| | 1973–1980 | 13.1 | 16.1 | 16.0 | 24.0 |
| France | 1960–1973 | 5.0 | 9.7 | 3.4 | 1.9 |
| | 1973–1980 | 14.5 | 15.9 | 14.1 | 26.9 |
| Germany, Fed. Rep. | 1960–1973 | 4.6 | 10.2 | 2.3 | −0.2 |
| | 1973–1980 | 4.6 | 8.5 | 7.7 | 18.2 |
| Italy | 1960–1973 | 7.0 | 12.1 | — | 0.9 |
| | 1973–1980 | 29.8 | 19.9 | 32.1 | 46.8 |
| Netherlands | 1960–1973 | 5.4 | 12.4 | 2.3 | 2.8 |
| | 1973–1980 | 8.0 | 10.5 | 13.5 | 27.3 |
| Norway | 1962–1973 | 4.2 | 10.2 | 4.2 | 4.3 |
| | 1973–1980 | 12.9 | 12.7 | 13.4 | 30.7 |
| Sweden | 1963–1973 | 6.4 | 10.3 | 0.9 | 3.8 |
| | 1973–1980 | 15.1 | 14.0 | 18.6 | 35.7 |
| United Kingdom | 1960–1973 | 8.3 | 8.4 | 3.0 | 3.4 |
| | 1973–1980 | 17.1 | 18.1 | 22.5 | 28.6 |
| United States | 1960–1973 | 3.9 | 5.2 | 3.6 | 3.2 |
| | 1973–1980 | 13.5 | 9.8 | 15.2 | 27.2 |

*Source*: Secretariat estimates based on national and international sources, see Appendix.
[a] Based on prices in national currencies. For definitions see Appendix.
[b] Fuels comprise hard coal, gas, and fuel oils.

### (iii) The general approach

The estimates of demand and substitution elasticities for factor inputs in manufacturing industry presented in this section are based on advances made in the theory of production over the last decade or so. It is well known that the standard economic theory of production focuses on two factor inputs only, namely capital and labour. The omission of intermediate inputs (materials and energy) "was tacitly accepted"[66] until the oil price shocks underlined the importance of understanding the interaction between the energy sector and the rest of the economy.[67]

However, the standard production theory is not really well suited for this task because it imposes constraints on the substitution possibilities between factor inputs which, in the present context may be too restrictive. It may be recalled that the standard production functions either restrict all elasticities of substitution to unity (as in the case of the Cobb-Douglas function) or require the imposition of constraints on the substitution possibilities when more than two inputs are taken into account (as would be the case for the so-called CES-function).

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[65] More technically, this means that the corresponding cross-price elasticity of the demand for *capital* goods with respect to a change in energy prices is negative.

[66] A.P. Carter, *Structural Change in the American Economy*, Harvard University Press, Cambridge, Mass., 1970, p.4. A rationale for this procedure and an early attempt to analyse the relationship between capital, labour and materials can be found in: E. Griliches, V. Ringstad, *Economies of Scale and the Form of the Production Function: An Econometric Study of Norwegian Manufacturing Establishment Data*, North-Holland Publishing Company, Amsterdam, London, 1971, pp. 103–123.

[67] See e.g. W.H. Hogan, A.S. Manne, "Energy-Economy Interactions: the Fable of the Elephant and the Rabbit?", in R.S. Pindyck (ed.) *Advances in the Economics of Energy and Resources. A Research Annual*, vol. 1, 1979, Greenwich, Connecticut, JAI Press Inc., pp.7–26.

However, recent academic work has seen the introduction and increasing application of so-called flexible functional forms[68] which permit the estimation of the relationship between more than two factor inputs without imposing *a priori* constraints on the magnitude and sign of the substitution elasticities between any pair of inputs.

Basically, the procedure is to derive factor demand equations from a cost function for total manufacturing industry. Empirical determination of the parameters of these demand equations then permits the inference of demand and substitution elasticities. This approach is rooted in the dual relationship between a production function, which shows what output is associated with a particular mix of inputs, and a cost function, which depicts the relationship between costs of production and factor input prices. Duality in the present context means that under certain conditions it is possible to derive information describing the production technology, notably substitution elasticities, from the parameters of a cost function.

Briefly, the model estimated here may be described as follows (a more detailed description is given below in the Technical Appendix): From a so-called flexible cost function[69] it is possible to derive cost-minimizing demand equations for each production factor – that is, capital, labour, energy and materials. These equations relate the demand for a particular factor to the prices of *all* factor inputs. The demand for a particular factor, in turn, is expressed in terms of its share in the total costs of producing a given level of output. More specifically, the estimated equations are of the form:

$$S_i = a_i + \sum_j bij \ln P_j + V_i.T \quad (i, j = K, L, E, M)$$

where $S_i$ denotes the share in total costs of input i (i.e. capital (K), labour (L), energy (E) and materials (M)), P stands for the factor price and T is a time variable which is included to measure the impact of technical change biases on factor demand.[70] The time variable was included because over a sufficiently long period factor demand may vary not only because of changes in relative prices but also because of the direction of technical change. The coefficients bij and $v_i$ have to be estimated and the former can be shown to be directly related to the demand and substitution elasticities which are the focus of this note.[71]

It is clear from the above that for the empirical estimation of this model, statistical information is required on prices of factor inputs and of their shares in the total costs of manufacturing industry. Unfortunately, this statistical information is not readily available and much of it had to be estimated by the ECE secretariat on the basis of various national and international sources. A detailed account of how the different variables were constructed is given in the Appendix. It proved impossible to obtain statistically reliable time-series of prices and costs of non-energy material inputs for all countries in the study. This factor therefore had to be excluded from the analysis thus restricting the model to three factors, namely capital, labour and energy. The energy input, in turn, was separated into electricity on the one hand and fuels, comprising coal, gas and fuel oils, on the other. This separation was made for two reasons: from table 1.5.1 it can be seen that the price of electricity rose in all countries much less than the price of fuels. Furthermore, the trends in industrial consumption of these two energy inputs have differed over time. Thus for OECD-Europe the industrial consumption of electricity between 1973 and 1981 rose at an average annual rate of about 1.5 per cent. In contrast, the consumption of other energy inputs (solid fuels, gas, and petroleum products) declined at an annual rate of 3 per cent over the same period.[72] These different trends in prices and consumption suggest separate examination of the relationship between capital and labour on the one hand and fuels and electricity on the other.

### (iv) Results of other studies

Before discussing the results of the present analysis, it is useful to look at some of the results obtained elsewhere in similar studies of factor demand elasticities in countries of the ECE region.

Table 1.5.2 contains selected price (or demand) and substitution elasticities for factor inputs in manufacturing

TABLE 1.5.2

**Price and substitution elasticities for manufacturing industry: results of other studies**

| | Price elasticities | | | Substitution elasticities | | |
|---|---|---|---|---|---|---|
| | $E_{EE}$ | $E_{KE}$ | $E_{LE}$ | $S_{KE}$ | $S_{LE}$ | $S_{KL}$ |
| United States[a]<br>1947-1971 . . | −0.45 | −0.14 | 0.03 | −3.22 | 0.64 | 1.01 |
| Netherlands[b]<br>1950-1976 . . | −0.14 | −0.10 | 0.04 | −2.60 | 1.38 | 0.89 |
| Norway[c]<br>1962 1978 . . | −0.82 | negative | .. | negative | .. | .. |
| Sweden[d]<br>1952 1976 . . | −0.25 | negative | .. | −1.43 | 0.12 | 0.66 |
| 9 countries[e,f]<br>1955 1969 . . | −0.79 | 0.13 | 0.11 | 1.04 | 0.83 | 0.39 |
| 10 countries[g,h]<br>1963 1973 . . | −0.82 | 0.05 | 0.06 | 0.76 | 1.06 | 0.81 |

*Note* The variable subscripts have the following meaning E – energy, K = capital, L = labour

[a] F R Berndt, D O Wood "Technology, Prices and the Derived Demand for Energy", *The Review of Economics and Statistics*, vol LVII, August 1975, No 2, pp 259 268

[b] J R Magnus, "Substitution between Energy and Non-Energy Inputs in the Netherlands 1950 1976 , *International Economic Review*, vol 20, No 2, June 1979, pp 465 484 This study refers to the total enterprise sector

[c] S Longva, O Olsen Price Sensitivity of Energy Demand in Norwegian Industries", *Scandinavian Journal of Economics*, vol 85, No 1, 1983, pp. 17 36

[d] J M Dargay "The Demand for Energy in Swedish Manufacturing Industries", *Scandinavian Journal of Economics*, vol 85, No.1, 1983, pp 37 51

[e] J M Griffin, P R Gregory "An Inter-country Translog Model of Energy Substitution Responses", *American Economic Review*, vol 66, No.5, December 1976, pp. 845 857

[f] Pooled cross-country time-series analysis Coverage Belgium, Denmark, France, Federal Republic of Germany, Italy, Netherlands, Norway, United Kingdom, United States The elasticities shown in the table are the simple arithmetic average of the individual country estimates

[g] R S Pindyck *The Structure of World Energy Demand*, the MIT Press, Cambridge, Mass., 1979

[h] Coverage Canada, France, Federal Republic of Germany, Italy, Japan, Netherlands, Norway, Sweden, United Kingdom, United States Footnote *f* also applies here

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[68] The seminal articles are the following: L.R. Christensen, D.W Jorgenson, L.J. Lau: "Transcendental Logarithmic Production Frontiers", *The Review of Economics and Statistics*, vol.LV, No. 1, February 1973, pp.28-45; and W.E. Diewert: "An Application of the Shephard Duality Theorem: A Generalized Leontief Production Function", *Journal of Political Economy*, vol.79, No. 3, 1971, pp. 481 507

[69] The particular functional form chosen here is the transcendental logarithmic cost function (short: translog cost function). The term "transcendental" refers only to the fact that all logarithmic functions belong to a broader class of mathematical functions which are called "transcendental"

[70] See H.P. Binswanger, "The Measurement of Technical Change Biases with Many Factors of Production", *American Economic Review*, vol. 64, No 6, December 1974, pp. 964-976

[71] This is shown in the Appendix

[72] OECD, *Energy Balances of OECD Countries 1971/1981*, Paris, 1983. Energy consumption is measured in tons of oil equivalent. Non-energy use of energy products has been excluded.

industry estimated by a number of academic researchers. Three price elasticities are shown. The own price elasticity of energy ($E_{EE}$) measures the responsiveness of energy demand to changes in the price of energy, i.e. it indicates the percentage change in demand for energy products associated with a rise in energy prices of 1 per cent. The other two price elasticities are so-called cross-price elasticities, which indicate the effect of changing energy prices on the demand for capital goods ($E_{KE}$) and the demand for labour ($E_{LE}$) respectively. A negative cross-price elasticity indicates that the two inputs in question are complementary to each other, whereas a positive cross-price elasticity indicates substitutability.

The "speed" with which industry changes its mix of factor inputs in response to changes in their relative prices is measured by the Allen-partial elasticities of substitution which are also shown in table 1.5.2. The larger the Sij (in absolute terms) the more firms are able to change the factor input ratio for a given level of output, following a change in the relative price of the relevant pair of inputs. (Note that the elasticity of substitution for two factors is symmetric, i.e. $S_{ij} = S_{ji}$, whereas the cross-price elasticities are not, i.e. in general $E_{ij} \neq E_{ji}$.) It can also be seen from table 1.5.2 that a positive (negative) cross-price elasticity corresponds to a positive (negative) substitution elasticity.

Turning to the results, it can be seen that the demand for energy is generally found to be sensitive to changes in energy prices, although estimates of the degree of sensitivity vary considerably: the figures for $E_{EE}$ range from $-0.14$ to $-0.84$. All studies agree that energy and labour are substitutes: $E_{LE}$ and $S_{LE}$ are both greater than zero. In contrast there is disagreement as regards the relationship between capital and energy. The first four studies listed show these two factors to be complementary ($E_{KE}$ and $S_{KE}$ are negative), while the last two studies conclude they are substitutes ($E_{KE}$ and $S_{KE}$ are positive).

The implications of these different findings are important. If manufacturing production is characterized by energy-capital complementarity then an increase in the price of energy will depress the demand for capital goods as well as that for energy. To the extent that technical progress is embodied in new machinery and equipment, this may have a negative impact on productivity growth. Furthermore, in the case of complementarity any policies designed to increase capital formation will not be possible without at the same time increasing energy consumption. This, in turn, may run counter to strategies aimed at keeping the demand for energy below a certain strategic level or may simply imply that investment incentives will be less effective in the presence of rising energy prices. This point demonstrates that the energy-capital relationship has important policy implications, and it is therefore not surprising that the conflicting findings reported above have led to a major controversy in the literature.[73]

The striking differences in the estimated parameters of the energy-capital relationship have been mainly associated with the short-run versus long-run dichotomy. The four studies in table 1.5.2 that found a complementary relationship are based on time-series analysis for a single country whereas the two indicating substitutability are based on a pooled cross-country time-series analysis. It is generally argued that cross-section or cross-country analysis will tend to reflect long-run adjustments, whereas the sort of time-series analysis in the relevant studies listed in table 1.5.2 will mirror short-run relationships.[74] The reason why results from a cross-country analysis have a long-run connotation is "that relative factor price variation tends to be much greater in these ... samples and that these differentials have tended to persist for substantial time periods, so that adjustment to a long-run equilibrium is possible".[75]

Although the short-run versus long-run interpretation of these different results appears to be plausible, there is evidence that contradicts this explanation. All the models reported above assume that factor cost shares vary only because of changes in relative factor prices. This may not be so, however. A factor which has been omitted from the analysis is the impact of technical change on the factor mix. It may be argued that the observed share changes are the result of the interplay of two factors, namely, ordinary factor substitution in response to price changes and biased technical change i.e. technical progress which raises the productivity of one factor more than another.[76] For example, in a time-series analysis of Australian manufacturing industry, which also examined the energy-capital relationship, the possible biases of technical change were explicitly allowed for in the estimation of the factor demand equations. It was found that energy and capital are substitutes in contrast with other time-series studies.[77]

The econometric results may also be sensitive to the level of disaggregation chosen. Any analysis for *total* manufacturing will tend to reflect an "average" behaviour from which individual branches can deviate to a lesser or greater extent. The time-series analyses for Sweden and Norway, quoted in table 1.5.2, were also carried out for individual sub-sectors of manufacturing industry. Not surprisingly, the results were found to differ among branches, showing energy-capital complementarity for some, substitutability for others and even, for a few, no relationship at all.

Thus, the empirical evidence available in the existing literature suggests that the controversy over whether energy and capital are complementary or substitutable cannot be resolved by reference to the differences between short-run (time-series) and long-run (cross-country) analysis. Model specification, (for example, allowances for biased technical change and scale effects) and the level of aggregation (which may conceal differences in the characteristics of individual branches) also appear to have an important impact on the results.

Furthermore, looking at the periods analyzed in the studies listed in table 1.5.2, it can be seen that either all or the majority of observations refer to the period preceeding the sharp rise in energy prices. This immediately raises the question of the extent to which these price and substitution elasticities, estimated completely or mainly over a period in which the variation in relative prices has since been greatly exceeded, can be assumed to be representative for the years after 1973.[78]

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[73] E.R. Berndt and D.O. Wood: "Engineering and Economic Interpretations of Energy-Capital Complementarity", *American Economic Review*, vol. 69, June 1979, No. 3, pp. 342 354; J. M. Griffin: "Engineering and Econometric Interpretations of Energy-Capital Complementarity: Comment", *American Economic Review*, vol. 71, December 1981, No. 5, pp. 1100–1104; E.R. Berndt and D.O. Wood: "Engineering and Econometric Interpretations of Energy-Capital Complementarity: Reply and Further Results", *American Economic Review*, December 1981, vol. 71, No. 5, pp 1105–1110.

[74] See e.g. R.S. Pindyck: *The Structure of World Energy Demand*, MIT Press, Cambridge, Mass., 1979: "By ... estimating these models using international data, we can better understand the long-run structure of energy demand and its relationship to economic growth", pp.4–5

[75] J.M. Griffin: "The Energy-Capital Complementarity Controversy: A Progress Report on Reconciliation Attempts",. E.R. Berndt and B.C. Field (eds.), *Modelling and Measuring Natural Resource Substitution*, MIT Press, Cambridge, Mass., 1981, p.72. Also: "In view of the wider variation in factor prices ... among countries at a given time than within a country over time, international factor price comparisons may provide indirect evidence of the responsiveness of the demand for factor inputs to fluctuations in factor costs". See G. Kopits: "Factor Prices in Industrial Countries", *IMF Staff Papers*, vol. 29, No. 3, September 1982, p.437

[76] See H.P. Binswanger, *loc.cit*

[77] M. Turnovsky, M. Folie, A. Ulph, "Factor Substitutability in Australian Manufacturing with Emphasis on Energy Inputs", *The Economic Record*, vol. 58, No. 160, March 1982, pp. 61 72

Against this background, the present note attempts to contribute to this area of research in the following way:

(*a*) by estimating the elasticities of demand and substitution on the basis of a pooled cross-country time series analysis for two separate periods, the first covering the years before 1973, the second covering the period of sharply rising energy prices. Such a procedure allows direct comparison of the elasticities corresponding to two quite distinct price régimes in order to establish whether or not the characteristics of demand for factor inputs have undergone important changes since 1973;

(*b*) to compare this cross-country analysis with a time-series analysis for the individual countries according to the same model specification as for the "pooled" analysis. Unfortunately, however, it was not possible to carry out the time-series analysis separately for the period before and after 1973 owing to the lack of a sufficient number of observations.

The results of this work are reported in the following section.

## (v) Demand and substitution elasticities before and after the oil price shocks

### (a) *Pooled cross-country time-series analysis*

As already mentioned, the basic data required for estimating the model were compiled for nine west European countries and the United States. Two sets of factor demand equations were estimated: the first was based on the pooled annual observations for the years 1960 to 1972, the second for the period 1973 to 1980. The estimates were made for two country groups, namely, the nine west European countries and for these nine countries plus the United States. The basic results are given in tables 1.5.3 to 1.5.5. below. The inclusion of the United States has some impact on the resulting own-price elasticities for energy products (table 1.5.3) and on the substitution elasticity between labour and energy products in the period 1973–1980 (table 1.5.4). However, the capital-labour, capital-energy and electricity-fuels relationships are not sensitive to the inclusion of the United States. To facilitate presentation, the main focus in the following is on the estimates obtained by pooling the observations for the nine European countries, but where major differences arise from the inclusion of the United States these will be noted.

Furthermore, it should be noted that although the estimated coefficients are derived from a pooled cross-country time-series analysis the model allows calculation of the price and substitution elasticities for each individual country and each year of the estimation period. This can be done by inserting into the equations shown in the Technical Appendix (i.e. 8.1, 8.2, 9.1, 9.2) the country-specific cost shares for the corresponding years. For the present study all elasticities discussed below have been evaluated at the mid-sample points, i.e. 1966 and 1977, which are considered sufficiently representative for the two periods examined.

#### *Own-price elasticities*

Table 1.5.3 (columns 3 and 4) contain the own-price elasticities for the four factor inputs, capital (K), labour (L), electricity (E) and fuels (F), for two periods, 1960–1972 and 1973–1980. Recall that these elasticities indicate the percentage change in the demand for the factor in question following an increase in its price by 1 per cent.

Looking at the estimates for 1960–1972, with three exceptions, all the elasticities are negative, reflecting the fact than increase in prices leads to a decline in the quantity demanded. There are three positive own-price elasticities, one for the Netherlands (electricity) and the other two for Sweden (fuels, electricity). However, for Sweden the large standard errors suggest that the estimated elasticities are not statistically significant,[79] i.e. the demand for energy does not appear to respond to changes in its price.[80] The positive own-price elasticity for electricity in the Netherlands – though small – indicates a perverse reaction of demand to price changes.

The general feature is for a quantity response which falls short of the the price change, that is, demand for factor inputs in manufacturing industry is somewhat inelastic. For labour the average elasticity for the nine countries is -0.35, for fuels -0.21[81] and for electricity -0.18.[82] The highest demand response is for capital, with an average price elasticity of -0.83. However, this may be a consequence of relatively crude estimates of the user cost of capital: because of data limitations, the estimates used here do not take taxes and investment grants into account (see Appendix).

Looking at the estimated elasticities for 1973–1980, it is clear that the pattern observed above does not change very much. The large majority of price elasticities of demand are significant and have the expected negative sign. Again there are some exceptions. In Finland (fuels only), the Federal Republic of Germany, Norway and Sweden the price elasticities for the two energy inputs are not significant, though they have the correct sign except in three cases.

There is a general tendency for the price elasticity of demand for labour ($E_{LL}$) to decline after 1973. The average value for the nine countries falls from -0.35 for 1960-1972 to -0.22 for 1973–1980. For capital the changes on average were smaller and, taking the standard errors into account, were not significant.

For fuels the important changes between the two periods were in Finland and the Federal Republic of Germany (a change from about -0.3 to an insignificant value) and the Netherlands (from a statistically insignificant elasticity in the first period to a highly significant value (-0.54) after 1973).

For electricity there are two striking changes, in the Netherlands (from 0.17 to -0.30) and in Norway (from -0.37 to -0.14). For Sweden and France the demand elasticities for this input are statistically insignificant in both periods and in the remaining countries the differences are small, with elasticities increasing in some countries and declining in others.

It is difficult to find a satisfactory explanation for the cases of positive or statistically insignificant, i.e. zero, price elasticities

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[78] cf. "Policies to encourage capital formation and/or productivity growth should not, I think, take the energy-capital complementarity finding too seriously in that it characterizes a relative price condition that no longer exists". J.R. Norsworthy, "Capital, Energy and Productivity Research", in John D. Hogan (ed.) *Dimensions of Productivity Research*, Proceedings of the Conference on Productivity Research, The American Productivity Center, Houston, Texas, April 1980, vol. I, p.178

[79] In this study an estimated coefficient is considered to be statistically significant if it exceeds (in absolute terms) its corresponding standard error by a factor of at least 1.7. Given the large number of observations available for the cross-country analysis this corresponds to a minimum significance level of 10 per cent (two-tailed test)

[80] Note also that for France the own-price elasticities of energy inputs are not significantly different from zero, though they have the expected negative sign. The same holds for fuels in the Netherlands and Norway.

[81] The average elasticity, excluding the non-significant and/or positive coefficients, (i.e. France, the Netherlands, Norway and Sweden) is -0.34.

[82] The average value excluding France, the Netherlands and Sweden is -0.31

TABLE 1.5.3

**Estimated own-price elasticities, based on cross-country equations**

| | All countries incl. United States | | | | All countries excl. United States | | | |
|---|---|---|---|---|---|---|---|---|
| | 1960–1972[a] | | 1973–1980[b] | | 1960–1972[a] | | 1973–1980[b] | |
| | Estimated coefficient | Standard error | Estimated coefficient | Standard error | Estimated coefficient | Standard error | Estimated coefficient | Standard error |
| Belgium | | | | | | | | |
| ELL | −0.3419 | 0.0296 | −0.1832 | 0.0195 | −0.3353 | 0.0314 | −0.1788 | 0.0205 |
| EKK | −0.8712 | 0.0736 | −0.8190 | 0.0984 | −0.8496 | 0.0755 | −0.8068 | 0.1018 |
| EFF | −0.2997 | 0.0472 | −0.5515 | 0.0519 | −0.2755 | 0.1264 | −0.2770 | 0.0794 |
| EEE | −0.2877 | 0.1099 | −0.1964 | 0.0778 | −0.2987 | 0.0534 | −0.4472 | 0.0522 |
| Finland | | | | | | | | |
| ELL | −0.3854 | 0.0316 | −0.2581 | 0.0221 | −0.3785 | 0.0335 | −0.2530 | 0.0232 |
| EKK | −0.8312 | 0.0663 | −0.7215 | 0.0572 | −0.8117 | 0.0679 | −0.7143 | 0.0591 |
| EFF | −0.4339 | 0.0364 | −0.4815 | 0.0633 | −0.2607 | 0.1292 | −0.0652 | 0.1055 |
| EEE | −0.2737 | 0.1122 | 0.0411 | 0.1032 | −0.4331 | 0.0411 | −0.3540 | 0.0637 |
| France | | | | | | | | |
| ELL | −0.4030 | 0.0324 | −0.2460 | 0.0217 | −0.3958 | 0.0344 | −0.2411 | 0.0227 |
| EKK | −0.7618 | 0.0558 | −0.7138 | 0.0554 | −0.7453 | 0.0572 | −0.7069 | 0.0573 |
| EFF | −0.0385 | 0.0674 | −0.1849 | 0.1074 | −0.0934 | 0.1602 | −0.1031 | 0.1009 |
| EEE | −0.1100 | 0.1390 | −0.0045 | 0.0988 | −0.0362 | 0.0761 | 0.0310 | 0.1080 |
| Germany, Fed. Rep. of | | | | | | | | |
| ELL | −0.3631 | 0.0305 | −0.2291 | 0.0211 | −0.3564 | 0.0324 | −0.2243 | 0.0220 |
| EKK | −0.8322 | 0.0664 | −0.7482 | 0.0642 | −0.8127 | 0.0681 | −0.7401 | 0.0664 |
| EFF | −0.2048 | 0.0547 | −0.4344 | 0.0706 | −0.2907 | 0.1236 | −0.0922 | 0.1022 |
| EEE | −0.3037 | 0.1072 | 0.0103 | 0.1000 | −0.2035 | 0.0617 | −0.2923 | 0.0711 |
| Italy | | | | | | | | |
| ELL | −0.3591 | 0.0303 | −0.2073 | 0.0203 | −0.3523 | 0.0322 | −0.2027 | 0.0212 |
| EKK | −0.8715 | 0.0737 | −0.7934 | 0.0820 | −0.8498 | 0.0755 | −0.7832 | 0.0848 |
| EFF | −0.3538 | 0.0429 | −0.4206 | 0.0727 | −0.4929 | 0.0850 | −0.4470 | 0.0575 |
| EEE | −0.5020 | 0.0737 | −0.3889 | 0.0563 | −0.3526 | 0.0485 | −0.2750 | 0.0731 |
| Netherlands | | | | | | | | |
| ELL | −0.3684 | 0.0308 | −0.3616 | 0.0276 | −0.3615 | 0.0326 | −0.3554 | 0.0288 |
| EKK | −0.7973 | 0.0608 | −0.6395 | 0.0430 | −0.7794 | 0.0624 | −0.6342 | 0.0445 |
| EFF | 0.1649 | 0.0826 | −0.4370 | 0.0702 | −0.0975 | 0.1595 | −0.5414 | 0.0443 |
| EEE | −0.1145 | 0.1383 | −0.4968 | 0.0434 | 0.1664 | 0.0933 | −0.2966 | 0.0706 |
| Norway[c] | | | | | | | | |
| ELL | −0.3097 | 0.0282 | −0.1902 | 0.0198 | −0.3035 | 0.0300 | −0.1857 | 0.0207 |
| EKK | −0.9224 | 0.0846 | −0.7745 | 0.0734 | −0.8975 | 0.0868 | −0.7653 | 0.0759 |
| EFF | −0.3756 | 0.0412 | −0.3192 | 0.0878 | −0.0411 | 0.1699 | 0.0566 | 0.1203 |
| EEE | −0.0582 | 0.1475 | 0.1770 | 0.1176 | −0.3748 | 0.0465 | −0.1427 | 0.0884 |
| Sweden[d] | | | | | | | | |
| ELL | −0.2967 | 0.0277 | −0.1157 | 0.0177 | −0.2906 | 0.0295 | −0.1116 | 0.0185 |
| EKK | −0.8982 | 0.0792 | 0.8404 | 0.1205 | −0.8749 | 0.0812 | −0.8254 | 0.1247 |
| EFF | 0.0776 | 0.0761 | −0.2728 | 0.0946 | 0.0112 | 0.1795 | 0.0753 | 0.1225 |
| EEE | −0.0052 | 0.1561 | 0.2003 | 0.1200 | 0.0802 | 0.0860 | −0.0839 | 0.0951 |
| United Kingdom | | | | | | | | |
| ELL | −0.3539 | 0.0301 | −0.2420 | 0.0215 | −0.3473 | 0.0319 | −0.2371 | 0.0225 |
| EKK | −0.8495 | 0.0695 | −0.7585 | 0.0675 | −0.8290 | 0.0712 | −0.7501 | 0.0699 |
| EFF | −0.1950 | 0.0554 | −0.3768 | 0.0793 | −0.3772 | 0.1073 | −0.4794 | 0.0531 |
| EEE | −0.3888 | 0.0930 | −0.4258 | 0.0520 | −0.1938 | 0.0626 | −0.2179 | 0.0797 |
| United States | | | | | | | | |
| ELL | −0.3291 | 0.0290 | −0.2323 | 0.0212 | | | | |
| EKK | −0.8598 | 0.0714 | −0.7564 | 0.0668 | | | | |
| EFF | 0.5111 | 0.1083 | −0.2019 | 0.1049 | | | | |
| EEE | −0.4560 | 0.0816 | −0.4099 | 0.0539 | | | | |

*Note.* The above elasticities ($E_{ii}$) indicate the percentage change in demand for factor i following an increase in its price of 1 per cent. The subscripts i have the following meaning: L = labour, K = capital, F = fuels (gas, coal, fuel oils), E = electricity

[a] Evaluated at 1966

[b] Evaluated at 1977

[c] First period is 1962–1972

[d] First period is 1963–1972

(mainly in France and Sweden). The reason may be adjustment lags in response to price changes which are not captured by the present model. A possible example of these could be long-term delivery contracts which limit the scope for immediate quantity responses to price increases.

The inclusion of the United States in the pooled data has only a very small effect on the price elasticities for capital and labour, but for some countries it does raise the size and significance of the electricity price elasticity at the expense of the fuel price elasticity.

Finally, it should be noted that the estimates in table 1.5.3 of the price elasticities for the two energy inputs are in general less than half the size of those estimated for total energy in the two cross-country studies (Griffin/Gregory; Pindyck) listed in table

1.5.2. The reason is probably due to the fact that the model used here takes technical change biases into account. The time variable used to measure this probably captures a lot of the variation in prices and cost shares and thus avoids inflating the long-term response of energy demand to changes in energy prices.

### *Substitution elasticities*

The estimated substitution elasticities for the four factor inputs are given in table 1.5.4. These elasticities are so-called Allen-partial elasticities of substitution, which indicate the relative change in demand for factor j following an increase in the price for factor i weighted by the share of factor i in total costs.[83] As above, the focus is on the estimates obtained by pooling only the nine European countries.

It can be seen that the elasticity of substitution between capital and labour ($S_{KL}$) is positive – indicating substitutability – and for all countries in both periods is close to 1. This finding agrees with the underlying hypothesis of the Cobb-Douglas production function.

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[83] Note that this definition corresponds to Hicks' classical definition of a partial elasticity of substitution only in a two factor input framework. Hicks defined the partial elasticity of substitution for two inputs as the ratio of the relative change in factor proportions to the relative change in the marginal rates of technical substitution.

TABLE 1.5.4

**Estimated substitution elasticities ($S_{ij}$) based on cross-country equations**

| | All countries incl. United States | | | | All countries excl. United States | | | |
|---|---|---|---|---|---|---|---|---|
| | 1960–1972[a] | | 1973–1980[b] | | 1960–1972[a] | | 1973–1980[b] | |
| | Estimated coefficient | Standard error | Estimated coefficient | Standard error | Estimated coefficient | Standard error | Estimated coefficient | Standard error |
| Belgium | | | | | | | | |
| SKL | 1.1758 | 0.1079 | 0.9476 | 0.1277 | 1.1499 | 0.1121 | 0.9458 | 0.1329 |
| SKE | 0.9875 | 0.2350 | 0.9297 | 0.1172 | 0.9306 | 0.2546 | 0.7518 | 0.1176 |
| SKF | 1.1923 | 0.6307 | 1.3222 | 0.3640 | 1.1372 | 0.6663 | 1.3578 | 0.3499 |
| SLE | 0.4993 | 0.1088 | 0.5592 | 0.0511 | 0.5087 | 0.1249 | 0.4446 | 0.0541 |
| SLF | 0.8677 | 0.2874 | −0.0074 | 0.1178 | 0.8477 | 0.3188 | 0.0810 | 0.1208 |
| SFE | −11.7148 | 1.5187 | 0.0114 | 0.5475 | −11.4185 | 1.7385 | 0.1605 | 0.5102 |
| Finland | | | | | | | | |
| SKL | 1.1689 | 0.1037 | 0.9656 | 0.0840 | 1.1440 | 0.1077 | 0.9644 | 0.0874 |
| SKE | 0.9913 | 0.1629 | 0.9502 | 0.0830 | 0.9519 | 0.1765 | 0.8242 | 0.0833 |
| SKF | 1.1767 | 0.5798 | 1.2484 | 0.2806 | 1.1262 | 0.6129 | 1.2760 | 0.2699 |
| SLE | 0.5885 | 0.0894 | 0.3912 | 0.0706 | 0.5962 | 0.1027 | 0.2325 | 0.0748 |
| SLF | 0.8558 | 0.3132 | −0.5150 | 0.1772 | 0.8339 | 0.3477 | −0.3834 | 0.1819 |
| SFE | −8.9967 | 1.1941 | −0.5997 | 0.8859 | −8.7703 | 1.3678 | −0.3603 | 0.8268 |
| France | | | | | | | | |
| SKL | 1.1463 | 0.0898 | 0.9673 | 0.0797 | 1.1247 | 0.0933 | 0.9662 | 0.0830 |
| SKE | 0.9865 | 0.2542 | 0.9182 | 0.1364 | 0.9249 | 0.2756 | 0.7110 | 0.1369 |
| SKF | 1.1846 | 0.6056 | 1.2306 | 0.2605 | 1.1319 | 0.6405 | 1.2599 | 0.2503 |
| SLE | 0.2169 | 0.1702 | −0.0105 | 0.1172 | 0.2309 | 0.1956 | −0.2733 | 0.1240 |
| SLF | 0.8163 | 0.3991 | −0.4193 | 0.1660 | 0.7883 | 0.4433 | −0.2946 | 0.1702 |
| SFE | −21.9438 | 2.7405 | −1.5969 | 1.4383 | −21.4580 | 3.1439 | −1.2050 | 1.3401 |
| Germany, Fed. Rep. of | | | | | | | | |
| SKL | 1.1637 | 0.1005 | 0.9632 | 0.0897 | 1.1396 | 0.1044 | 0.9619 | 0.0934 |
| SKE | 0.9870 | 0.2454 | 0.9376 | 0.1040 | 0.9275 | 0.2659 | 0.7798 | 0.1044 |
| SKF | 1.1694 | 0.5556 | 1.2703 | 0.3053 | 1.1210 | 0.5878 | 1.3005 | 0.2939 |
| SLE | 0.4024 | 0.1299 | 0.3546 | 0.0749 | 0.4134 | 0.1492 | 0.1866 | 0.0792 |
| SLF | 0.8668 | 0.2894 | −0.3943 | 0.1631 | 0.8464 | 0.3216 | −0.2739 | 0.1675 |
| SFE | −13.3543 | 1.7146 | −0.7277 | 0.9568 | −13.0458 | 1.9663 | −0.4696 | 0.8932 |
| Italy | | | | | | | | |
| SKL | 1.1804 | 0.1108 | 0.9547 | 0.1105 | 1.1538 | 0.1150 | 0.9531 | 0.1150 |
| SKE | 0.9887 | 0.2138 | 0.9180 | 0.1367 | 0.9369 | 0.2317 | 0.7108 | 0.1371 |
| SKF | 1.1292 | 0.4237 | 1.1943 | 0.2195 | 1.0923 | 0.4483 | 1.2159 | 0.2111 |
| SLE | 0.5333 | 0.1014 | 0.3590 | 0.0744 | 0.5418 | 0.1165 | 0.1929 | 0.0786 |
| SLF | 0.9089 | 0.1979 | 0.2424 | 0.0886 | 0.8950 | 0.2199 | 0.3085 | 0.0909 |
| SFE | −6.7578 | 0.9266 | −0.0021 | 0.5550 | −6.5957 | 1.0633 | 0.1493 | 0.5170 |
| Netherlands | | | | | | | | |
| SKL | 1.1511 | 0.0928 | 0.9678 | 0.0786 | 1.1289 | 0.0963 | 0.9666 | 0.0819 |
| SKE | 0.9820 | 0.3398 | 0.9585 | 0.0692 | 0.8997 | 0.3680 | 0.8535 | 0.0694 |
| SKF | 1.2001 | 0.6564 | 1.0785 | 0.0887 | 1.1430 | 0.6947 | 1.0873 | 0.0853 |
| SLE | 0.0892 | 0.1979 | 0.1602 | 0.0974 | 0.1066 | 0.2272 | −0.0569 | 0.1030 |
| SLF | 0.8268 | 0.3764 | 0.2085 | 0.0926 | 0.8003 | 0.4182 | 0.2771 | 0.0951 |
| SFE | −27.0017 | 3.3447 | 0.2549 | 0.4126 | −26.3905 | 3.8344 | 0.3673 | 0.3845 |
| Norway[c] | | | | | | | | |
| SKL | 1.1932 | 0.1186 | 0.9605 | 0.0962 | 1.1647 | 0.1231 | 0.9592 | 0.1001 |
| SKE | 0.9875 | 0.2356 | 0.9114 | 0.1478 | 0.9304 | 0.2551 | 0.6871 | 0.1483 |
| SKF | 1.2969 | 0.9740 | 1.3631 | 0.4102 | 1.2119 | 1.0294 | 1.4038 | 0.3949 |
| SLE | 0.5831 | 0.0906 | 0.2463 | 0.0874 | 0.5910 | 0.1040 | 0.0503 | 0.0925 |
| SLF | 0.8303 | 0.3686 | −0.5396 | 0.1801 | 0.8045 | 0.4093 | −0.4068 | 0.1850 |
| SFE | −13.8779 | 1.7771 | −1.5281 | 1.4002 | −13.5406 | 2.0356 | −1.1504 | 1.3069 |

TABLE 1.5.4 (*continued*)

**Estimated substitution elasticities ($S_{ij}$) based on cross-country equations**

| | All countries incl. United States | | | | All countries excl. United States | | | |
|---|---|---|---|---|---|---|---|---|
| | 1960–1972[a] | | 1973–1980[b] | | 1960–1972[a] | | 1973–1980[b] | |
| | Estimated coefficient | Standard error | Estimated coefficient | Standard error | Estimated coefficient | Standard error | Estimated coefficient | Standard error |
| Sweden[d] | | | | | | | | |
| SKL | 1.1775 | 0.1089 | 0.9419 | 0.1417 | 1.1513 | 0.1131 | 0.9398 | 0.1476 |
| SKE | 0.9784 | 0.4073 | 0.8433 | 0.2613 | 0.8796 | 0.4416 | 0.4469 | 0.2621 |
| SKF | 1.2939 | 0.9642 | 1.6085 | 0.6875 | 1.2095 | 1.0176 | 1.6760 | 0.6610 |
| SLE | 0.2432 | 0.1644 | 0.2717 | 0.0845 | 0.2567 | 0.1890 | 0.0838 | 0.0893 |
| SLF | 0.8236 | 0.3833 | −0.4096 | 0.1649 | 0.7972 | 0.4248 | −0.2853 | 0.1690 |
| SFE | −28.1039 | 3.4763 | −1.7801 | 1.5397 | −27.4261 | 3.9794 | −1.3563 | 1.4321 |
| United Kingdom | | | | | | | | |
| SKL | 1.1689 | 0.1037 | 0.9605 | 0.0964 | 1.1440 | 0.1077 | 0.9591 | 0.1004 |
| SKE | 0.9862 | 0.2602 | 0.9264 | 0.1228 | 0.9232 | 0.2818 | 0.7402 | 0.1231 |
| SKF | 1.1537 | 0.5041 | 1.1478 | 0.1669 | 1.1099 | 0.5336 | 1.1642 | 0.1606 |
| SLE | 0.4023 | 0.1299 | 0.2588 | 0.0860 | 0.4135 | 0.1491 | 0.0667 | 0.0909 |
| SLF | 0.8860 | 0.2477 | 0.2583 | 0.0868 | 0.8685 | 0.2754 | 0.3228 | 0.0890 |
| SFE | −11.6259 | 1.5081 | −0.0095 | 0.5591 | −11.3590 | 1.7302 | 0.1427 | 0.5211 |
| United States | | | | | | | | |
| SKL | 1.1674 | 0.1028 | 0.9615 | 0.0938 | | | | |
| SKE | 0.9723 | 0.5226 | 0.9036 | 0.1607 | | | | |
| SKF | 1.1386 | 0.4546 | 1.1515 | 0.1711 | | | | |
| SLE | −0.1270 | 0.2449 | 0.0358 | 0.1118 | | | | |
| SLF | 0.9035 | 0.2097 | 0.2446 | 0.0884 | | | | |
| SFE | −20.6637 | 2.5876 | −0.3831 | 0.7660 | | | | |

*Note*: The subscripts have the following meaning: L = labour, K = capital, F = fuels, E = electricity. Note that the substitution elasticities are symmetric, i.e $S_{KL} = S_{LK}$ etc

[a] Evaluated at 1966. [b] Evaluated at 1977. [c] First period is 1962–1972. [d] First period is 1963–1972.

Moreover, in all countries and in both periods capital and electricity and capital and fuels, respectively, are found to be substitutes (positive $S_{KE}$ and $S_{KF}$). However, note that for Norway and Sweden in the first period (1960–1972) $S_{KF}$ is not statistically significant. This general pattern of substitutability between capital and energy thus confirms the results of other studies using international data. However, these studies had examined only the period up to 1973 and the striking feature of table 1.5.4 is the high degree of stability of the substitution elasticities in the face of sharply rising energy prices.

There is less stability in the relationship between energy and labour. For the period 1960–1973 the dominating feature is substitutability between labour on the one hand and electricity and fuels on the other. It is interesting to note that $S_{LE}$ in all countries is smaller than $S_{LF}$. The substitution elasticity between labour and electricity ($S_{LE}$) is not statistically significant in three countries (France, the Netherlands and Sweden).

Labour-energy substitutability is significant for the period 1973–1980 in four of the nine countries (Belgium, Finland, the Federal Republic of Germany and Italy), although the declining size of the elasticity coefficient indicates that this relationship has become rather weak. The most striking change is in France, where the elasticity of substitution between labour and electric power changes from a statistically insignificant positive value to a negative value (indicating complementarity) after 1973. In Norway and the United Kingdom the elasticity coefficient is no longer significantly different from zero. For the Netherlands and Sweden there is no change, the coefficient being statistically insignificant in both periods.

A similar diversity can be found in the changes in the labour-fuels relationship. In five out of nine countries (Finland, France, the Federal Republic of Germany, Norway and Sweden) the elasticities indicate a change from substitutability to weak complementarity. Substitutability persists in three countries (Italy, the Netherlands and the United Kingdom), although the size of the elasticities are only about one third of those before 1973. Only in Belgium is the elasticity of substitution between labour and fuels not statistically significant after 1973.

It is possible that these changes in the energy-labour relationship (namely, a weakening of substitutability or a change from substitutability to weak complementarity) are spurious. The period after 1973 has seen attempts by firms to increase the energy efficiency of production. However, at the same time, the level of economic activity has been very low, leading to drastic cuts in the labour force employed in manufacturing industry. The above finding may therefore be due to a cyclical (demand) effect rather than a fundamental change in the relation between the two factor inputs.

The results in table 1.5.4 also show the two energy inputs, electricity and fuels, to be strong complements before 1973, as indicated by the very large negative values for the elasticity of substitution between them. It is striking that this feature completely vanishes for the period 1973–1980. For all countries the standard errors of the estimated elasticities are larger than the elasticities themselves, indicating that the latter are not significantly different from zero. It is not easy to provide a satisfactory interpretation of this apparent change in the relationship between the two energy inputs. One possibility is that the relatively large differences in price changes for these two inputs after 1973 (the electricity price rose much less than the fuels price) induced some substitution away from fuels towards electricity, thus breaking up the complementarity. However, this shift has clearly not been strong enough to establish a statistically significant relationship of substitutability.

### *Cross-price elasticities*

The cross-price elasticities in table 1.5.5 directly measure the effect of an increase in the price of factor input i on the demand for factor input j at a given level of output: their economic interpretation is more straightforward than that for the substitution elasticities discussed above.

As the focus of this note is on the impact of the change in energy prices on the demand for capital and labour, only the corresponding cross-price elasticities $E_{KE}$, $E_{KF}$ and $E_{LE}$, $E_{LF}$ are discussed here.

The impact of rising energy prices on the demand for capital is found to be very small. On average an increase of 10 per cent in the price of electricity will have *raised* the demand for capital goods (as a result of substitution) by 0.4 per cent in both of the periods examined. For an increase of 10 per cent in the fuel price, the corresponding response is somewhat smaller in the

TABLE 1.5.5

**Cross-price elasticities based on cross-country equations**

| | All countries incl. US | | All countries excl. US | | All countries incl. US | | All countries excl. US | |
|---|---|---|---|---|---|---|---|---|
| | 1960–1972$^{a}$ | 1973–1980$^{b}$ | 1960–1972$^{a}$ | 1973–1980$^{b}$ | 1960–1972$^{a}$ | 1973–1980$^{b}$ | 1960–1972$^{a}$ | 1973–1980$^{b}$ |
| | *Belgium* | | | | *Netherlands* | | | |
| EKL . . . . | 0.7920 | 0.6943 | 0.7746 | 0.6930 | 0.7456 | 0.5031 | 0.7312 | 0.5026 |
| EKE . . . . | 0.0503 | 0.0657 | 0.0474 | 0.0531 | 0.0286 | 0.0502 | 0.0262 | 0.0447 |
| EKF . . . . | 0.0290 | 0.0590 | 0.0277 | 0.0606 | 0.0231 | 0.0863 | 0.0220 | 0.0870 |
| ELK . . . . | 0.2953 | 0.1440 | 0.2888 | 0.1437 | 0.3498 | 0.3366 | 0.3431 | 0.3362 |
| ELE . . . . | 0.0254 | 0.0395 | 0.0259 | 0.0314 | 0.0026 | 0.0084 | 0.0031 | −0.0030 |
| ELF . . . . | 0.0211 | −0.0003 | 0.0206 | 0.0036 | 0.0159 | 0.0167 | 0.0154 | 0.0222 |
| EEK . . . . | 0.2480 | 0.1413 | 0.2337 | 0.1142 | 0.2984 | 0.3333 | 0.2734 | 0.2968 |
| EEL . . . . | 0.3363 | 0.4097 | 0.3427 | 0.3258 | 0.0578 | 0.0833 | 0.0691 | −0.0296 |
| EEF . . . . | −0.2849 | 0.0005 | −0.2777 | 0.0072 | −0.5206 | 0.0204 | −0.5088 | 0.0294 |
| EFK . . . . | 0.2995 | 0.2009 | 0.2856 | 0.2063 | 0.3647 | 0.3751 | 0.3474 | 0.3781 |
| EFL . . . . | 0.5845 | −0.0054 | 0.5710 | 0.0593 | 0.5355 | 0.1084 | 0.5183 | 0.1441 |
| EFE . . . . | −0.5963 | 0.0008 | −0.5812 | 0.0113 | −0.7860 | 0.0133 | −0.7682 | 0.0192 |
| | *Finland* | | | | *Norway*$^{c}$ | | | |
| EKL . . . . | 0.7377 | 0.6244 | 0.7220 | 0.6237 | 0.8413 | 0.6962 | 0.8212 | 0.6952 |
| EKE . . . . | 0.0655 | 0.0551 | 0.0629 | 0.0478 | 0.0577 | 0.0381 | 0.0543 | 0.0287 |
| EKF . . . . | 0.0280 | 0.0419 | 0.0268 | 0.0429 | 0.0235 | 0.0402 | 0.0219 | 0.0414 |
| ELK . . . . | 0.3261 | 0.2527 | 0.3192 | 0.2524 | 0.2606 | 0.1959 | 0.2544 | 0.1956 |
| ELE . . . . | 0.0389 | 0.0227 | 0.0394 | 0.0135 | 0.0341 | 0.0103 | 0.0345 | 0.0021 |
| ELF . . . . | 0.0204 | −0.0173 | 0.0198 | −0.0129 | 0.0150 | −0.0159 | 0.0146 | −0.0120 |
| EEK . . . . | 0.2766 | 0.2487 | 0.2656 | 0.2157 | 0.2157 | 0.1859 | 0.2032 | 0.1401 |
| EEL . . . . | 0.3714 | 0.2530 | 0.3763 | 0.1504 | 0.4112 | 0.1785 | 0.4167 | 0.0365 |
| EEF . . . . | −0.2141 | −0.0201 | −0.2087 | −0.0121 | −0.2512 | −0.0450 | −0.2451 | −0.0339 |
| EFK . . . . | 0.3283 | 0.3268 | 0.3142 | 0.3340 | 0.2832 | 0.2780 | 0.2647 | 0.2863 |
| EFL . . . . | 0.5401 | −0.3330 | 0.5263 | −0.2479 | 0.5855 | −0.3911 | 0.5673 | −0.2948 |
| EFE . . . . | −0.5948 | −0.0348 | −0.5798 | −0.0209 | −0.8106 | −0.0639 | −0.7909 | −0.0481 |
| | *France* | | | | *Sweden*$^{d}$ | | | |
| EKL . . . . | 0.7038 | 0.6392 | 0.6906 | 0.6384 | 0.8452 | 0.7612 | 0.8264 | 0.7595 |
| EKE . . . . | 0.0352 | 0.0314 | 0.0330 | 0.0243 | 0.0309 | 0.0328 | 0.0278 | 0.0174 |
| EKF . . . . | 0.0227 | 0.0432 | 0.0217 | 0.0441 | 0.0222 | 0.0466 | 0.0207 | 0.0485 |
| ELK . . . . | 0.3796 | 0.2610 | 0.3724 | 0.2607 | 0.2749 | 0.1169 | 0.2688 | 0.1166 |
| ELE . . . . | 0.0077 | −0.0003 | 0.0082 | −0.0093 | 0.0077 | 0.0106 | 0.0081 | 0.0033 |
| ELF . . . . | 0.0157 | −0.0147 | 0.0151 | −0.0104 | 0.0141 | −0.0119 | 0.0137 | −0.0083 |
| EEK . . . . | 0.3267 | 0.2478 | 0.3063 | 0.1919 | 0.2285 | 0.1047 | 0.2054 | 0.0555 |
| EEL . . . . | 0.1331 | −0.0069 | 0.1418 | −0.1806 | 0.1746 | 0.2196 | 0.1842 | 0.0677 |
| EEF . . . . | −0.4211 | −0.0561 | −0.4118 | −0.0423 | −0.4814 | −0.0515 | −0.4698 | −0.0393 |
| EFK . . . . | 0.3923 | 0.3321 | 0.3748 | 0.3389 | 0.3021 | 0.1996 | 0.2824 | 0.2080 |
| EFL . . . . | 0.5012 | −0.2771 | 0.4840 | −0.1946 | 0.5912 | −0.3310 | 0.5722 | −0.2305 |
| EFE . . . . | −0.7827 | −0.0546 | −0.7654 | −0.0412 | −0.8872 | −0.0692 | −0.8658 | −0.0527 |
| | *Germany, Federal Republic of* | | | | *United Kingdom* | | | |
| EKL . . . . | 0.7597 | 0.6554 | 0.7439 | 0.6545 | 0.7736 | 0.6391 | 0.7571 | 0.6382 |
| EKE . . . . | 0.0434 | 0.0487 | 0.0408 | 0.0405 | 0.0428 | 0.0429 | 0.0401 | 0.0343 |
| EKF . . . . | 0.0291 | 0.0441 | 0.0279 | 0.0451 | 0.0331 | 0.0766 | 0.0318 | 0.0777 |
| ELK . . . . | 0.3239 | 0.2244 | 0.3172 | 0.2241 | 0.3111 | 0.2128 | 0.3045 | 0.2125 |
| ELE . . . . | 0.0177 | 0.0184 | 0.0182 | 0.0097 | 0.0175 | 0.0120 | 0.0179 | 0.0031 |
| ELF . . . . | 0.0216 | −0.0137 | 0.0211 | −0.0095 | 0.0254 | 0.0172 | 0.0249 | 0.0215 |
| EEK . . . . | 0.2747 | 0.2184 | 0.2582 | 0.1816 | 0.2625 | 0.2053 | 0.2457 | 0.1640 |
| EEL . . . . | 0.2627 | 0.2413 | 0.2699 | 0.1270 | 0.2663 | 0.1722 | 0.2737 | 0.0444 |
| EEF . . . . | −0.3323 | −0.0252 | −0.3246 | −0.0163 | −0.3332 | −0.0006 | −0.3255 | 0.0095 |
| EFK . . . . | 0.3255 | 0.2959 | 0.3120 | 0.3029 | 0.3070 | 0.2543 | 0.2954 | 0.2580 |
| EFL . . . . | 0.5658 | −0.2683 | 0.5526 | −0.1864 | 0.5864 | 0.1719 | 0.5748 | 0.2148 |
| EFE . . . . | −0.5875 | −0.0378 | −0.5739 | −0.0244 | −0.5046 | −0.0004 | −0.4930 | 0.0066 |

TABLE 1.5.5 (*continued*)

**Cross-price elasticities based on cross-country equations**

| | All countries incl. US | | All countries excl. US | | All countries incl. US | | All countries excl. US | |
|---|---|---|---|---|---|---|---|---|
| | 1960 1972[a] | 1973 1980[b] | 1960 1972[a] | 1973 1980[b] | 1960 1972[a] | 1973 1980[b] | 1960 1972[a] | 1973 1980[b] |
| | *Italy* | | | | *United States* | | | |
| EKL . . . . | 0.7753 | 0.6735 | 0.7578 | 0.6723 | 0.8009 | 0.6507 | | |
| EKE . . . . | 0.0553 | 0.0464 | 0.0524 | 0.0359 | 0.0216 | 0.0316 | | |
| EKF . . . . | 0.0408 | 0.0736 | 0.0395 | 0.0749 | 0.0372 | 0.0742 | | |
| ELK . . . . | 0.2964 | 0.1742 | 0.2897 | 0.1739 | 0.3023 | 0.2153 | | |
| ELE . . . . | 0.0298 | 0.0181 | 0.0303 | 0.0097 | −0.0028 | 0.0013 | | |
| ELF . . . . | 0.0329 | 0.0149 | 0.0324 | 0.0190 | 0.0295 | 0.0158 | | |
| EEK . . . . | 0.2482 | 0.1675 | 0.2352 | 0.1297 | 0.2518 | 0.2023 | | |
| EEL . . . . | 0.3503 | 0.2532 | 0.3558 | 0.1361 | −0.0872 | 0.0243 | | |
| EEF . . . . | −0.2444 | −0.0001 | −0.2385 | 0.0092 | −0.6757 | −0.0247 | | |
| EFK . . . . | 0.2835 | 0.2179 | 0.2742 | 0.2218 | 0.2948 | 0.2578 | | |
| EFL . . . . | 0.5970 | 0.1710 | 0.5878 | 0.2176 | 0.6199 | 0.1655 | | |
| EFE . . . . | −0.3782 | −0.0001 | −0.3692 | 0.0075 | −0.4596 | −0.0134 | | |

*Note*: The above cross-price elasticities (Eij) indicate the percentage change in demand for factor i following an increase in the price of factor j of 1 per cent. The subscripts have the following meaning: L = labour, K = capital, F = fuels, E = electricity. Example: $E_{KI}$ shows the percentage change in demand for capital following an increase in electricity prices of 1 per cent.

[a] Evaluated at 1966. [b] Evaluated at 1977. [c] First period is 1962 1972. [d] First period is 1963-1972

first period (0.3 per cent) and somewhat larger in the second (0.6 per cent).

The corresponding cross-price elasticities between labour and electricity are even smaller than those for capital and electricity, with the exception of France (1960–1972) and Italy (1973–1980). The same holds for the impact of fuel price changes on labour demand (again Italy is a striking deviation from the general pattern).

These findings suggest that, in the long run, the industrial demand for capital and labour is largely independent of changes in energy input prices. One reason for this is that the share of energy in total costs is on average very small (around 2–3 per cent). This means that an increase in energy prices, even a doubling or trebling, will have only a modest effect on the *average* level of industrial costs. This, in turn, implies that, on average, increases in the price of energy alone will not tend to render production unprofitable – this will occur only for those firms which are already producing at the margin, always assuming that firms cannot pass on these higher costs in the form of higher prices for their products.

Furthermore, changing the factor input mix involves "transaction costs" such as the scrapping of existing equipment and the costs and frictions of installing new machines, etc. These costs, in turn, may exceed the energy cost savings from the new equipment, given the relatively small importance of energy costs. It would therefore seem to be unlikely that industrial investment after 1973 was dominated by the desire to introduce energy saving equipment. It is more plausible that this was a side product of a more general and continuing process of rationalisation of production. More specifically, it may be said that firms are interested in minimizing total costs, not particular costs such as energy. Therefore "any advance that reduces total costs is welcome".[84]

(b) *Results from time-series analysis of individual countries*

It was mentioned above that a controversy had arisen in the literature because of a conflict between the results obtained from time-series analysis which supported the view that energy and capital were complementary and those from pooled cross-country analysis which showed them to be substitutes. The data underlying the present study cover the period 1960–1980. This is a sufficiently large number of observations to estimate the demand and substitutability elasticities on a time-series basis. It is therefore interesting to compare the findings of such an analysis with those above from the pooled cross-country time-series analysis.

Recall that it is common practice to attach a short-run interpretation to parameters estimated from a time-series analysis and to attribute long-run characteristics to cross-country estimates. Despite these different interpretations there remain some caveats when estimating the factor demand equations for the period 1960–1980 since the time series includes observations from two quite distinct price régimes, particularly for energy.

In the above cross-country analysis it was found that this change in prices had led to some fundamental changes in the energy-labour and the fuels-electricity relationships after 1973. Combining the observations from before and after 1973 may therefore produce a blurred "probability picture", where the two price régimes may partly neutralize each other. This suggests that some caution should be used when interpreting the findings.

The results of the time-series analysis are shown in table 1.5.6 and 1.5.7. Turning first to the own-price elasticities in table 1.5.6, it can be seen that all the price elasticities for labour ($E_{LL}$) and capital ($E_{KK}$) have the expected negative sign. Whereas for labour all price elasticities are in the inelastic range, and thus agree with the results of the cross-country analysis, some of the price elasticities for capital appear to be implausibly large.

The fuel price elasticities have the correct negative sign in seven out of ten countries. In France, Italy and the United Kingdom there is a positive elasticity, but only in France is the coefficient significant. The fuel price elasticity for the United States is not statistically significant, though it has the correct sign.

The demand elasticities for electricity are negative and statistically significant in only two of the ten countries (France and the Netherlands). In contrast they are positive and significant in Finland, Norway, Sweden and the United Kingdom. This latter finding is somewhat disconcerting as it runs counter to plausible economic reasoning. A possible explanation may be the existence of adjustment lags which are not specified in the model.

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[84] W.E.G. Salter, *Productivity and Technical Change*, 2nd ed., Cambridge University Press, 1966, p.43

### TABLE 1.5.6

### Individual countries, time series analysis, 1960–1980[a]

| | | Belgium | Finland | France | Germany, Federal Republic of | Italy | Netherlands | Norway[b] | Sweden[c] | United Kingdom | United States |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | *Estimated own-price elasticities*[d] | | | | | |
| ELL | E.C. | −0.2622 | −0.4694 | −0.4615 | −0.2636 | −0.1575 | −0.5009 | −0.2634 | −0.2821 | −0.2397 | −0.3544 |
| | S.E. | 0.0086 | 0.0896 | 0.0681 | 0.0544 | 0.0718 | 0.1439 | 0.0843 | 0.0663 | 0.0296 | 0.0588 |
| EKK | E.C. | −0.7326 | −0.9832 | −1.1973 | −0.7091 | −0.7095 | −1.0410 | −0.7819 | −1.0442 | −0.9602 | −1.4281 |
| | S.E. | 0.0059 | 0.1827 | 0.1437 | 0.0949 | 0.0827 | 0.2010 | 0.2762 | 0.2380 | 0.1064 | 0.2843 |
| EFF | E.C. | −0.2814 | −0.3400 | 0.1959 | −0.6348 | 0.0648 | −0.1787 | −0.2835 | −0.1556 | 0.1844 | −0.0983 |
| | S.E. | 0.0712 | 0.1143 | 0.0864 | 0.1268 | 0.0715 | 0.0830 | 0.0593 | 0.0466 | 0.1359 | 0.1162 |
| EEE | E.C. | −0.1461 | 0.4791 | −0.2665 | 0.3162 | −0.0857 | −0.2138 | 0.4417 | 0.3419 | 0.1731 | 0.3483 |
| | S.E. | 0.1990 | 0.0942 | 0.0927 | 0.2485 | 0.0989 | 0.0509 | 0.1374 | 0.0561 | 0.0818 | 0.2189 |
| | | | | | | *Cross-price elasticities*[d] | | | | | |
| EKL | E.C. | 0.6499 | 0.9036 | 1.0561 | 0.6452 | 0.5997 | 0.9610 | 0.8310 | 1.0085 | 0.7981 | 1.2812 |
| EKE | E.C. | 0.0517 | 0.0148 | 0.0604 | 0.0408 | 0.0734 | 0.0209 | −0.0594 | 0.0057 | 0.0608 | 0.0508 |
| EKF | E.C. | 0.0311 | 0.0647 | 0.0808 | 0.0230 | 0.0364 | 0.0590 | 0.0102 | 0.0300 | 0.1014 | 0.0961 |
| ELK | E.C. | 0.2709 | 0.4674 | 0.5316 | 0.2646 | 0.1493 | 0.5030 | 0.2694 | 0.2825 | 0.2634 | 0.3864 |
| ELE | E.C. | −0.0094 | −0.0127 | −0.0196 | −0.0265 | 0.0036 | 0.0090 | −0.0106 | −0.0055 | −0.0053 | −0.0179 |
| ELF | E.C. | 0.0007 | 0.0147 | −0.0505 | 0.0255 | 0.0046 | −0.0110 | 0.0047 | 0.0051 | −0.0184 | −0.0141 |
| EEK | E.C. | 0.2698 | 0.0986 | 0.5726 | 0.2763 | 0.3072 | 0.1758 | −0.2886 | 0.0409 | 0.3354 | 0.4548 |
| EEL | E.C. | −0.1182 | −0.1633 | −0.3690 | −0.4379 | 0.0602 | 0.1441 | −0.1594 | −0.1417 | −0.0890 | −0.5307 |
| EEF | E.C. | −0.0055 | −0.4144 | 0.0629 | −0.1545 | −0.2816 | −0.1062 | 0.0063 | −0.2411 | −0.4195 | −0.2725 |
| EFK | E.C. | 0.2740 | 0.7082 | 1.2193 | 0.2338 | 0.1894 | 0.4152 | 0.1117 | 0.3224 | 0.6166 | 0.5023 |
| EFL | E.C. | 0.0167 | 0.3114 | −1.5154 | 0.6331 | 0.0965 | −0.1478 | 0.1578 | 0.1954 | −0.3388 | −0.2450 |
| EFE | E.C. | −0.0094 | −0.6795 | 0.1003 | −0.2321 | −0.3507 | −0.0887 | 0.0140 | −0.3622 | −0.4622 | −0.1590 |

*Note*. E.C. = estimated coefficient, S.E. = standard error
[a] See Note to tables 1 5.3 and 1.5.5. [b] 1962 1980. [c] 1963 1980. [d] Evaluated at 1971.

### TABLE 1.5.7

### Individual countries, substitution elasticities based on time series analysis, 1960–1980[a]

| | | Belgium | Finland | France | Germany, Federal Republic of | Italy | Netherlands | Norway[b] | Sweden[c] | United Kingdom | United States |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SKL | E.C. | 1.0033 | 1.4838 | 1.6790 | 0.9749 | 0.8134 | 1.5954 | 1.1806 | 1.3568 | 1.1525 | 1.7846 |
| | S.E. | 0.0087 | 0.2896 | 0.2157 | 0.1565 | 0.1034 | 0.3836 | 0.3796 | 0.3186 | 0.1401 | 0.3226 |
| SKE | E.C. | 0.9993 | 0.3130 | 1.8085 | 1.0179 | 1.6733 | 0.5575 | −1.2647 | 0.1965 | 1.4678 | 2.1010 |
| | S.E. | 0.0073 | 0.3468 | 0.5032 | 0.3776 | 0.3718 | 0.3457 | 0.6122 | 0.2961 | 0.2700 | 0.6335 |
| SKF | E.C. | 1.0151 | 2.2482 | 3.8511 | 0.8614 | 1.0319 | 1.3168 | 0.4893 | 1.5482 | 2.6978 | 2.3201 |
| | S.E. | 0.0169 | 0.6609 | 0.9046 | 0.9282 | 0.3715 | 0.8613 | 0.7008 | 0.5890 | 0.4766 | 1.5252 |
| SLE | E.C. | −0.1824 | −0.2682 | −0.5867 | −0.6617 | 0.0816 | 0.2393 | −0.2264 | −0.1906 | −0.1285 | −0.7393 |
| | S.E. | 0.2099 | 0.1416 | 0.1963 | 0.3962 | 0.0751 | 0.2379 | 0.1862 | 0.0510 | 0.1027 | 0.2164 |
| SLF | E.C. | 0.0258 | 0.5113 | −2.4093 | 0.9566 | 0.1309 | −0.2454 | 0.2242 | 0.2629 | −0.4892 | −0.3413 |
| | S.E. | 0.1522 | 0.3096 | 0.3299 | 0.5360 | 0.0615 | 0.5618 | 0.2061 | 0.1210 | 0.1289 | 0.3554 |
| SFE | E.C. | −0.1811 | −14.3935 | 3.0019 | −5.7901 | −7.9928 | −2.3674 | 0.2990 | −12.4414 | −11.1667 | −6.5771 |
| | S.E. | 2.2393 | 1.9745 | 2.2396 | 2.7556 | 1.5727 | 0.7928 | 2.0337 | 1.2578 | 1.9052 | 3.2645 |

*Note*: E.C. = estimated coefficient, S.E. = standard error
[a] See Note to tables 1.5.3 and 1.5.5
[b] 1962 1980
[c] 1963 1980

Table 1.5.7 shows the elasticities of substitution estimated from the time-series analysis. Capital and labour are found to be substitutes in all ten countries. It can also be seen that capital and electricity are substitutes in nine out of ten countries.[85] Only for Norway is there a negative substitution elasticity ($S_{KE}$), indicating complementarity.

Roughly the same pattern can be found for the capital-fuels relationship. All estimates indicate substitutability (positive $S_{KF}$), although four of the ten elasticities are not statistical significant.[86]

Taking the standard errors into account, the substitution elasticities for labour and electricity are not significantly different from zero in six of the ten countries. In the remaining four (Finland, France, Sweden and the United States) the elasticities indicate weak complementarity. Comparison with the results obtained from the pooled cross-country analysis (see table 1.5.4) suggests that these results largely reflect the dominating effect of the post-1973 data. In the cross-country analysis the general feature was for substitutability in the period 1960–1972 and a zero elasticity of substitution for 1973–1980. Only in France was there a switch to weak complementarity in this second period.

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[85] However, it should be noted that the elasticities are not statistically significant in three of these nine countries (Finland, the Netherlands and Sweden).

[86] These four countries are the Federal Republic of Germany, the Netherlands, Norway and the United States

Similar findings emerge for the labour-fuels relationship. For six countries the estimated coefficients do not reach the generally applied levels of significance. Among the remaining four countries the two factors are found to be complementary in France (strong) and the United Kingdom (weak) and weak substitutes in Sweden and Italy. Again, these results appear to be dominated by the post-1973 observations.

In contrast, the time-series analysis suggests that electricity and fuels are complements in seven of the ten countries,[87] thus depicting more closely the pre-1973 relationships found in the cross-country analysis.

These findings suggest that one should be very sceptical about the estimated substitution elasticities for labour and energy products on the one hand and for fuels and electricity on the other. The same applies, of course, to the corresponding cross-price elasticities.

Although the substitution elasticities describing the capital-fuels, capital-electricity and capital-labour relationships do not, taken by themselves, look implausible, a comparison with the results from the cross-country analysis shows that they imply that the short-term response to an energy price increase is larger than the long-term response indicated by the cross-country analysis.

The general conclusion therefore is that although the time-series analysis for the period 1960–1980 does not in general contradict the finding of capital-energy substitutability based on the pooled cross-country estimates, the results do suggest that the simple static trans-log model is not capable of producing reliable estimates for all parameters over this particular period. The main reason for this appears to be the marked change in relative price régimes around 1973.

### (c) *Technical change biases*

Finally, it is interesting to look at the parameter estimates obtained for technical change biases. It will be recalled that a time variable for technical change was included because over a long period the demand for factors is not only a function of price but also of the pace and direction of technical change. The results[88] of the cross-country analysis are shown in table 1.5.8 below.

It can be seen that the estimated biases are all rather small, but with two exceptions (labour for 1973–1980; fuels for 1960–1972), all are significant. The general feature is for technical change to be labour- and energy-using, as indicated by the positive coefficients. In contrast, the negative coefficients suggest that technical change is capital-saving for total manufacturing industry in the ten countries.[89] It is striking that in all cases the biases increased in the second period, 1973–1980. These results are somewhat surprising and seem to run counter to standard economic reasoning regarding the direction of technical change.[90] Not many estimates regarding these biases are available but it is clear that the above findings may also be influenced by the choice of the time variable to proxy for technical change.

TABLE 1.5.8

**Technical change biases**[a]

| Factor inputs | 1960 1972 | 1973-1980 |
|---|---|---|
| Labour . . . . . . . . . | 0.0013<br>(0.00075) | 0.0021<br>(0.0015) |
| Electricity . . . . . . . | 0.00082<br>(0.00022) | 0.0018<br>(0.00015) |
| Fuels . . . . . . . . . . | 0.00035<br>(0.00028) | 0.00075<br>(0.00031) |
| Capital . . . . . . . . . | −0.0025<br>(0.00065) | −0.0046<br>(0.00015) |

[a] Figures in brackets below the estimated coefficients are standard errors.

These findings are generally confirmed in the time-series analysis for each country; however, the general caveat made above with regard to the time-series estimates applies. Technical change is found to be capital-saving in eight of the ten countries (the exceptions are Finland and Norway where it is found to capital-using, although in the latter country the bias is much smaller than in the other countries)[91] and energy-using in all ten countries. In seven of the ten countries technical change is found to be labour-using. For three countries (Finland, the Netherlands and Norway) technical change has a labour-saving bias. However, in six countries, (France, the Federal Republic of Germany, Italy, Sweden, the United Kingdom and the United States) the standard errors for the estimated coefficient are large, suggesting that technical change was labour-neutral.

### (vi) Summary of findings

This study has attempted to estimate demand and substitution elasticities for four factor inputs – capital, labour, electricity and fuels – used in the manufacturing industries of ten countries. The general approach was based on recent developments in the theory of production. In order to examine the impact of the sharp rise in energy prices on the economic relationship between the different factor inputs these estimates were made on the basis of a pooled cross-country time-series analysis for two separate sets of data, one for the period 1960–1972, the other for 1973–1980.

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[87] The estimated elasticities are statistically insignificant in the remaining three countries, namely, Belgium, France and Norway.

[88] These results are not sensitive to the inclusion or exclusion of the United States. The results above are those obtained in pooling the nine European countries *plus* the United States.

[89] For a similar pattern of biases in several US manufacturing industries see D.W. Jorgenson and B.M. Fraumeni: "Relative Prices and Technical Change", in E.R. Berndt, B.C. Field, *op.cit.*, pp. 17–47

[90] However, one should perhaps hesitate a little before rejecting these results out of hand. This point was taken up by Paul. A. Samuelson in a somewhat different context. "For the most part labour-saving innovation has a spurious attractiveness to economists because of a fortuitous verbal muddle. When writers list inventions, they find it easy to list labour-saving ones and exceedingly difficult to list capital-saving ones. ... That this is all fallacious becomes apparent when one examines a mathematical production function and has to decide in advance whether a particular described invention changes the partial-derivatives of marginal productivity imputation one way or another. Thus consider a locomotive. It is big and heavy. So the literary mind thinks that it must correspond to a capital-using invention and hence to a labour-saving invention. ... And yet there is not the slightest pretext for such an inference." P.A. Samuelson: "A Theory of Induced Innovation along Kennedy-Weizsaecker Lines", *The Review of Economics and Statistics*, vol. XLVII, Nov. 1965, No. 4, p.355.

[91] The technical change biases with regard to capital are obtained as a residual, because the capital equation was deleted from the system of equations estimated. Standard errors for this variable are therefore not readily available.

An attempt was also made to estimate these elasticities on the basis of a time-series analysis carried out for each country individually with annual data for the period 1960–1980. This was done because a comparison of results from cross-country and pure time-series analysis should in principle allow some insight into possible differences between the long-term and short-term responses to changing relative factor prices.

From the cross-country analysis the following conclusions were drawn:

The industrial demand for a particular factor input is in general sensitive to changes in its price. However, the quantity response is found to be inelastic, i.e. an increase in the factor price of 1 per cent leads to a decline in the demand for this factor of less than 1 per cent. The study shows the elasticity of demand for capital to be about twice as high as for labour. This may be somewhat on the high side and probably reflects the simplification required to obtain internationally comparable estimates of the cost of capital.

In contrast, the estimated price elasticities of energy inputs are much lower than found in two other international studies (see table 1.5.2). A possible reason for this is that the model used here takes technical change biases into account.

The study finds capital and energy (fuels and electricity) to be substitutes in both periods and it is striking to observe the relatively high degree of stability of the substitution elasticities over time.

In contrast, some noticeable changes were detected in the labour-energy substitution elasticities before and after 1973. Before 1973, labour and the two energy inputs were found to be substitutes, though in a few cases the estimated elasticities are small and not statistically significant. However, after 1973, this relationship changes in some countries to one of complementarity (mainly between labour and fuels). The general feature is for the substitution elasticities to decline to relatively small magnitudes (absolutely), reflecting the increasing tendency of the demand for these inputs to be even less affected (than before 1973) by changes in their relative factor prices.

The study also sheds some light on the electricity-fuels relationship which in all countries, was found to be strongly complementary before 1973 and "independent" thereafter.

Finally, time series analysis for individual countries, based on data for the whole period 1960–1980, produced parameter estimates many of which look implausibly high and which appear to be strongly biased by the observations for the years after 1973. This applies, in particular, to the relationship between labour and energy. With all these caveats in mind it is nevertheless interesting to observe that with the exception of one country (Norway) this study does not confirm the finding of energy-capital complementarity that has emerged from other time-series analyses (see table 1.5.2). It is suggested that this difference is due to the fact that the model used here allows for technical change biases.

### (vii) Conclusions

It is worthwhile to consider briefly some of the economic implications of the empirical analysis reported above.

The results suggest that although the own-price elasticities for energy inputs are not particularly high, they are nevertheless sufficient to call into question all long-term forecasts of energy demand which are based on constant energy/output ratios and do not take price changes into account.

The study finds energy and the other factor inputs to be substitutes, i.e. an increase in energy prices will not reduce the demand for capital and labour. However, from the magnitudes of the corresponding cross-price elasticities it can be seen that the positive demand effect is rather small. This may be explained by two factors: firstly, it is possible that it is not easy to substitute for energy in the production process. (This would also be an alternative explanation of the low own-price elasticities for fuels and electricity.) Secondly the importance of energy in total cost is rather small and even large changes in energy prices, therefore, will lead to only relatively small increases in the total costs of firms.

These results imply that the energy price shocks are not directly responsible for the sluggishness of investment in recent years. Other factors, such as the depressed state of demand (which has of course been affected by the rise in oil prices) have been more important. Another implication is that higher prices are unlikely to have been responsible for making obsolete a significant proportion of the existing capital stock, as is often claimed. It is true that some parts of the capital stock in manufacturing industry will never again be profitable, but there are a number of alternative explanations for this (as for example in the case of steel or shipbuilding).[92]

Also, given the weak links between energy prices and labour and capital and given the small proportion of energy in total costs, it is difficult to see how the rise in energy prices might have played a major role in the recent slowdown in productivity growth.

It is also worth noting that the cross-price elasticities indicating the response of demand for labour and capital to changes in energy prices are not very different when estimated on a cross-country or a time-series basis. This leads to the tentative conclusion that the short- and long-term responses of factor demand to energy price changes are rather similar. Again, this would appear to reflect both the relative insignificance of energy costs and the difficulty of finding alternatives to energy in the actual production process.

Finally, although the focus of this note is on the relationship between energy on the one hand and capital and labour on the other, the empirical results are in fact relevant to a broader range of issues. A detailed analysis of these goes beyond the scope of this note, but one example may illustrate the point: the cross-country analysis shows that the price elasticity of demand for labour is around -0.3, suggesting that an increase in hourly labour costs by 10 per cent will reduce the firms' demand for hours by 3 per cent. This suggests that attempts to achieve higher employment through reductions of working hours without appropriate wage adjustments will be self-defeating.

## APPENDIX

### I. The translog cost model

In the following only the basic features of the estimated model are presented. For a more rigorous derivation the reader is referred to the economic literature.[93] The model is rooted in the principle of duality which allows us to infer, under certain regularity conditions, the characteristics of the production structure from a cost function which relates total costs (C) to the level of output (Q) and factor prices ($P_i$). More generally, this cost function can be written as follows:

$$C = C\,(Q,\ P_K,\ P_L,\ P_E,\ P_F,\ P_M) \qquad (1)$$

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[92] For a sceptical view of the argument that higher energy prices have "knocked out" a substantial part of the capital stock see: *Economic Survey of Europe in 1982*, pp. 20–23.

[93] See e.g. L.R. Christensen, D.W. Jorgenson and L.J. Lau, *loc.cit.*, E.R. Berndt, D.O. Wood, *loc.cit.*, R.S. Pindyck, *op.cit.*

where the subscripts to the price variables have the following meaning:

K = capital, L = labour, E = electricity, F = fuels, M = materials.

Since it was impossible to obtain reliable data for prices of material inputs (M) for all countries in the study it is necessary to assume that the latter are weakly separable from the other inputs. This means that it is assumed that the marginal rate of substitution between any two pairs of the inputs retained in the model (i.e. K, L, E, F) is independent of the quantity of material used.

It is furthermore assumed that the cost-minimizing mix of factor inputs is independent of the level of output, i.e. the cost function is assumed to be homothetic.

Consequently the cost function (1) can be rewritten in general terms as follows:

$$C = C\left(f\left(P_K, P_L, P_E, P_F\right); P_M\right) \tag{2}$$

or

$$C = g\left(P_K, P_L, P_E, P_F\right) \tag{3}$$

For empirical estimation it is necessary to specify a definite functional form of (3).

In the work reported above, equation (3) was specified as a translog function and is therefore written as follows:

$$\ln C = \ln a_o + a_i \sum_i \ln P_i + \tfrac{1}{2}\sum_i \sum_j b_{ij} \ln P_i \,.\, \ln P_j \qquad i, j = K, L, E, F \tag{4}$$

To ensure that the factor substitution elasticities (S) are symmetric (i.e. $S_{ij} = S_{ji}$) the following condition is imposed: $b_{ij} = b_{ji}$ (for $i \neq j$).

Differentiating (4) logarithmically with respect to prices (i.e. $\partial \ln C / \partial \ln P_i$) and using Shephard's Lemma (i.e. $\partial C / \partial P_i = X_i$, where $X_i$ is the quantity of factor i used on the minimum cost locus) gives four factor demand equations in terms of cost shares $M_i$, where $M_i = P_i X_i / C$

$$M_i = a_i + \sum_j b_{ij} \ln P_j \qquad i, j = K, L, E, F \tag{5}$$

or, more specifically,

$$M_K = a_K + \sum_j b_{Kj} \ln P_j \tag{5.1}$$

$$M_L = a_L + \sum_j b_{Lj} \,.\, \ln P_j \tag{5.2}$$

$$M_E = a_E + \sum_j b_{Ej} \,.\, \ln P_j\, j \qquad j = K, L, E, F \tag{5.3}$$

$$M_F = a_F + \sum_j b_{Ej} \,.\, \ln P_j \tag{5.4}$$

The factor demand equations as given above imply that technical change is Hicks-neutral.[94] Following methods developed elsewhere,[95] technical change biases can be allowed for by rewriting (5) in the following way:

$$M_i = a_i + \sum_j b_{ij} \ln P_j + v_i . T \tag{6}$$

where T is a time variable. If $v_i = 0$ then technical change is neutral; if $v_i$ is less than zero it is biased towards saving factor i and if $v_i$ is greater than zero there is factor-using technical change.

To ensure that the cost function is well-behaved and linearly homogeneous in prices the following restrictions must hold:

$$\sum a_i = 1; \tag{7}$$

$$\sum_i b_{ij} = b_{ji} = 0 \qquad i, j = K, L, E, F$$

$$\sum_i v_i = 0$$

The estimates of the $b_{ij}$ coefficients in (5) can be shown to be related to the Allen-partial elasticities of substitution (S) as follows:

$$S_{ij} = \frac{b_{ij} + S_i \,.\, S_j}{S_i \,.\, S_j} \tag{8.1}$$

$$i,j = K, L, E, F$$

$$S_{ii} = \frac{b_{ii} + S_i^2 - S_i}{S_i^2} \tag{8.2}$$

Furthermore, it can be shown that the own- and cross-price elasticities of demand are related to the substitution elasticities in the following way:

$$Eij = Mj \,.\, Sij \qquad (i \neq j) \tag{9.1}$$

$$Eii = Mi \,.\, Sii \tag{9.2}$$

Since the cost shares sum to unity, the restrictions in (7) together with the symmetry conditions imply that the parameters of any three equations exactly identify all the parameters of the four equations in (5). Hence, only three of the four factor demand equations need to be estimated.

The procedure is therefore to impose the set of restrictions (7) on the equations to be estimated and to delete one equation from the system. For the estimates reported above the capital equation was omitted.

The parameters of the remaining three equations were estimated using multivariate regression techniques[96] (seemingly unrelated regressions) which give more efficient estimates than regressions applied separately to each equation. For the pooled cross-country time-series estimation the first-order coefficients in (5.1), i.e. the $a_i$ coefficients, were allowed to vary across countries by using country dummy variables (covariance model).

## II. Definition of variables

The empirical implementation of the model requires statistical information on the prices and shares in total production costs of capital, labour, fuels and electricity.

### 1. *Cost shares*

Cost shares were obtained by dividing the outlays for each factor by total costs. Total costs – omitting materials – were calculated as gross value added at factor cost plus expenditure on fuels (hard coal, gas, fuel oils) and electricity.

Data for expenditure on labour (compensation of employees) and capital (gross operating surplus) were obtained from national accounts statistics. For the calculation of the corresponding cost shares an adjustment was made for the wage income of self-employed by imputing to them the average manufacturing wage per employee. For France, time-series for value added and compensation of employees were made directly available by INSEE, Paris. For Belgium, the data on compensation of employees before 1970 are secretariat estimates based on national statistics.

Energy expenditures were obtained by multiplying the quantity consumed by the corresponding unit prices (see below) of the energy inputs. Data on energy consumption were extracted from OECD, *Basic Energy Statistics*, (magnetic tape). Non-energy use of energy products has not been taken into account

### 2. *Prices*

All factor input prices were normalized with regard to the corresponding US price in 1975 (= 1.0) by using purchasing power parities.

#### (a) *Price of labour* ($P_L$)

The price of labour was calculated as the hourly labour cost in manufacturing industry. Hourly labour costs for Finland, Norway,

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[94] Technical change is said to be Hicks-neutral if at, say, a constant capital-labour ratio the marginal rate of substitution does not change.

[95] M. Binswanger, *loc.cit.*, and M. Turnovsky, M. Folie, A. Ulph, *loc.cit*

[96] The estimation was done by using the Time Series Processor software package (version 3.5).

Sweden and the United States were obtained by dividing compensation of employees by total hours worked. For the six EEC countries (Belgium, France, the Federal Republic of Germany, Italy, the Netherlands and the United Kingdom) hourly labour costs in national currency units for 1966, 1969 and 1971–1980 were taken from statistics compiled by Eurostat. The missing observations for 1960–1965, 1967–1968, and 1970 were estimated on the basis of index numbers of hourly compensation compiled by the United States Bureau of Labor Statistics.

### (b) *Price of capital* ($P_K$)

For the calculation of the price of capital it was not possible to take taxes, investment grants, etc. into account owing to lack of appropriate data. Two types of capital assets were distinguished, viz. equipment and structures. For both types of asset the user cost of capital ($P_K$) was obtained by the formula $PK_i = q_i(r + d_i)$, where i denotes the specific type of capital good, $q_i$ is the price index of asset i, r is the long-term interest rate and $d_i = 2/N_i$ when $N_i$ is the average lifetime of asset i in each country.

Data on average asset lives for seven of the ten countries were taken from M. Ward, *The Measurement of Capital, The Methodology of Capital Stock Estimates in OECD Countries*, Paris, 1976. The data for Belgium, Finland and the Netherlands are secretariat estimates. Depreciation rates by type of asset and by country are given below:

*Depreciation rates* ($d_i$)

| | *Equipment* | *Structures* |
|---|---|---|
| Belgium | 0.10 | 0.04 |
| Finland | 0.12 | 0.05 |
| France | 0.13 | 0.06 |
| Germany, Federal Republic of | 0.10 | 0.04 |
| Italy | 0.05 | 0.02 |
| Netherlands | 0.10 | 0.04 |
| Norway | 0.13 | 0.03 |
| Sweden | 0.10 | 0.03 |
| United Kingdom | 0.06 | 0.03 |
| United States | 0.10 | 0.04 |

The resulting two series for the user cost of capital were combined into an aggregate index of the price of capital services by using the Divisia-Toernquist formula with investment shares as weights.

### (c) *Price of electricity*

For the six Common Market countries electricity prices in national currencies and quantities for two different consumer classes were made available by Eurostat. The first class covers firms with an average annual electricity consumption of 160,000 kWh, 1.25 million kWh and 2 million kWh. The second class covers major consumers with an annual consumption of 10 million Kwh. In the terminology used by Eurostat these standard consumers are designated as $I_c$, $I_d$, $I_e$ and $I_f$ respectively. The final price of electricity was calculated as the weighted average of the prices for the two consumer classes.

Electricity prices for Sweden and Norway were obtained from annual industrial statistics by dividing the total value of electricity consumption in manufacturing industry by total quantity consumed.

The price series for Finland was compiled from Ministry of Trade and Industry (Energy Department) *Energy Statistics* (annual) 1982. The final price series is a weighted wholesale price for small, medium-scale and large-scale consumers.

For the United States a benchmark price for 1976 was obtained from the *Annual Survey of Manufactures*. Data for the other years were calculated with the help of an unpublished index of industrial electricity prices obtained from OECD.

### (d) *Fuel prices*

The fuel prices were calculated as a Divisia-index of prices for hard coal, gas, and light and heavy fuel oils. All price series were converted to prices per ton of oil equivalent using conversion factors published by OECD. For the six Common Market countries prices of gas and fuel oils were obtained directly from Eurostat. Coal prices were compiled from various national and international sources: the basic sources were two Eurostat publications containing industrial coal prices up to 1970: (a) "Prix du Charbon 1955–1970", *Statistiques de l'Energie*, Supplément 1–2, 1973, and (b) *A Comparison of Fuel Prices: Oil, Coal, Gas 1955–1970*. The information in these two publications were updated and supplemented with statistics on coal prices compiled from various national sources and unpublished OECD data.

For Sweden and Norway basic fuel prices were compiled from the annual industrial statistics as described above. Note that the consumption of gas by industry is negligible in these two countries and has been omitted. Hard coal prices for Norway were calculated on the basis of import values from the Norwegian foreign trade statistics. For Finland prices for heavy and light fuel oil and coal were taken from Ministry of Trade and Industry, *Energy Statistics*. Gas prices were calculated by adding taxes, fiscal charges and fees to import prices.

# *Chapter 2*

# *SOUTHERN EUROPE*

## 2.1 RECENT DEVELOPMENTS IN SOUTHERN EUROPE

The pessimistic forecasts for the south European countries made at the beginning of 1983 have in general been confirmed by events. GDP virtually stagnated in Greece and Portugal, and decelerated in Turkey from 4.8 per cent in 1982 to 2.8 per cent in 1983. There was some recovery in Spain, from 1.3 per cent growth in 1982 to 2.1 per cent in 1983. In Yugoslavia the social product fell by 1.3 per cent, the first decline in more than three decades.

The continuance of high rates of inflation and of large current account and public sector deficits have entailed the maintenance or reinforcement of restrictive economic policies: rates of expansion of domestic demand (except in Turkey) have been low or negative, and low rates of output growth have provided no check to growing levels of unemployment. All the countries of this group have suffered from the still very high levels of international interest rates. Current account deficits were reduced in Portugal and Spain, and eliminated in Yugoslavia; in Greece and Turkey there was some deterioration.[97]

Prospects for southern Europe in 1984 are not particularly bright. According to official forecasts GNP growth is expected to accelerate in Turkey to a rate of 5 per cent, but this does not seem to take fully into account the more restrictive economic policy stance that was adopted recently. The more modest target in Spain of 2.5 per cent growth seems well within reach and in Greece some recovery is expected in 1984 but, given the stringent policies in force, the growth in total output may be well below the average medium-term GDP growth target (3.5-4.0 per cent) of the Preliminary Plan for 1983-1987. In Portugal the stabilization policies being followed at present are expected to lead to a fall of 1 per cent in GDP. In Yugoslavia the stabilization programme anticipates growth in the social product of about 2 per cent. Unemployment is expected to increase in Greece, Portugal and Turkey and, at best, to stabilize in Spain. Inflation is likely to continue at high rates, declining wage pressures being offset by lower productivity growth, rising indirect taxes and the effects of exchange rate depreciation. All countries assume a significant decline in their current account deficits.

### (i) Southern Europe (excluding Yugoslavia)

#### (a) *Output and demand*

In 1983 GDP stagnated in Greece and in Portugal (after growth of 3.5 per cent in 1982) and decelerated in Turkey from 4.8 to 2.8 per cent. In Spain there was some recovery with GDP growth increasing from 1.3 per cent in 1982 to 2 per cent (table 2.1.1). In contrast with 1982, when agricultural output had made a significant contribution to total output and demand expansion, bad weather in 1983 led to a fall of agricultural output in three of these four countries (the exception being Spain).

Industrial output stagnated in Greece after two years of decline. In Portugal it decelerated rapidly and in Spain it recovered to a modest rate of growth. Only in Turkey did the expansion of industrial output (over 9 per cent) approach the high rates of the early 1970s. Services continued to expand in all countries, but in general at a lower rate than in 1982.

In *Greece* no official estimates are yet[98] available on changes in output by sector. Very rough estimates can be made on the basis of indirect indicators generally covering only the first half of the year. Agricultural output fell as a result of bad weather. Manufacturing output might at best have stagnated, although a small decline seems more likely: indicators for the first half of the year show in fact a decline in output, but external demand (and demand in the house-building sector) might have sustained manufacturing output during the second half of the year. Mining output continued to decline and public utility output grew by perhaps 4 to 5 per cent. The construction sector recovered strongly in 1983 after three successive years of decline. The recovery stems mostly from the housing sector, but public works might also have contributed.

In *Portugal* GDP stagnated in 1983. Sectoral data are not yet available, but it seems that there was modest growth in industry (the positive effect of increased exports being partly offset by lower domestic demand) and a large fall in construction (due to higher interest rates). Output in agriculture declined and service output rose slightly.

Unlike other south European countries, agricultural output in *Spain* increased in 1983 by some 3.5 per cent. Industrial output grew by 2.7 per cent, the first increase in three years. The increase in industrial production was concentrated in the first half of the year, a marked deceleration occurring in the second half. The growth of industrial production was mostly due to consumer goods, while the output of investment goods continued to fall. The deceleration of industrial production during the second half of the year seems to be mostly due to a deceleration of domestic consumption which was not completely offset by the rapid increase of foreign demand. The increase of 4.2 per cent in electricity consumption for the year as a whole

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[97] For details of trade and current account developments see section 4.2 below.

[98] That is, in March 1984

### TABLE 2.1.1

**Annual changes in the volume of output in selected south European countries**
*(Annual percentage changes)*

| | 1970–1973 | 1974–1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|
| *Greece* | | | | | | |
| Gross domestic product at factor cost | 8.4 | 3.7 | 1.9 | −0.2 | 0.2 | .. |
| *of which*: | | | | | | |
| Agriculture | 4.5 | 1.0 | 11.9 | −1.4 | 3.5 | .. |
| Industry | 13.1 | 4.7 | 0.7 | −1.0 | −2.9 | .. |
| Construction | 7.3 | 0.5 | −13.6 | −8.5 | −7.7 | .. |
| Services | 8.0 | 4.8 | 2.3 | 1.5 | 1.6 | .. |
| *Portugal*[a] | | | | | | |
| Gross domestic product at factor cost | 9.2 | 2.9 | 4.1 | 0.5 | 3.5 | —[b] |
| *of which*: | | | | | | |
| Agriculture | 1.7 | −1.0 | 0.4 | −13.2 | 4 | −7 |
| Industry | 10.5 | 3.0 | 3.9 | 0.8 | 3.9 | 2 |
| Construction | 10.5 | 0.8 | 7.9 | 3.7 | 2 | −6 |
| Services | 10.5 | 4.5 | 5.0 | 4.0 | 3.4 | 0.5 |
| *Spain* | | | | | | |
| Gross domestic product at factor cost | 6.8 | 2.7 | 1.5 | 0.4 | 1.3 | 2.1 |
| *of which*: | | | | | | |
| Agriculture | 3.4 | 1.6 | 8.9 | −10.9 | 1.3 | 3.5 |
| Industry | 9.9 | 2.6 | 0.4 | 0.0 | −0.5 | 2.7 |
| Construction | 4.1 | −2.3 | −2.0 | −2.0 | 0.5 | −1.0 |
| Services | 6.0 | 3.8 | 1.2 | 1.3 | 2.1 | 1.9 |
| *Turkey*[c] | | | | | | |
| Gross domestic product at factor cost | 6.3 | 5.6 | −1.0 | 4.2 | 4.8 | 2.8 |
| *of which*: | | | | | | |
| Agriculture | 1.4 | 5.5 | 1.7 | 0.1 | 6.5 | −2.7 |
| Industry | 8.1 | 5.3 | −7.9 | 9.4 | 5.8 | 9.1 |
| Construction | 4.6 | 6.1 | 0.8 | 0.4 | 0.5 | 0.4 |
| Services | 8.8 | 5.8 | −0.2 | 4.8 | 4.1 | 3.4 |

*Sources*: OECD, *National Accounts of OECD countries*; ECE secretariat estimates; Greece - Bank of Greece, *Monthly Statistical Bulletin*; Portugal - Banco de Portugal, *Relatrório do Conselho de Administração*, annual issues, *Boletim trimestral*, December 1983, and "Latest Figures on the Portuguese Economy", February 1984. Ministerio das Finanças e do Plano, Grandes Opções para 1984, September 1983; Spain - Instituto nacional de estadística, *Contabilidad nacional de España base 1970*, annual issues; Banco de España, *Boletín económico*; Turkey - T.C Maliye Bakanligi, *Aylik Ekonomik Göstergeler*, (Ministry of Finance, Monthly Economic Indicators); State Planning Organization, 1984 Annual Programme, Ankara 1983

[a] 1980-1983 at market prices.

[b] 1983 branch data are secretariat estimates on official estimates made in September. These are not consistent with the figure for total GDP

[c] 1970-1973 and 1974-1979 at producer values, excluding import taxes and imputed bank changes

confirms the mild recovery of industrial output. The fall in the output of the construction sector is due to housing. The service sectors continued to grow at a moderate but steady rate and the slight deceleration in 1983 was due to the public sector. Income from tourism increased in real terms by 3 per cent, in spite of the fact that in 1982 the world football championship had attracted an exceptionally large number of visitors.[99]

In *Turkey*, GDP growth fell from 4.8 per cent in 1982 to 2.8 per cent in 1983. This slowdown was mostly due to the effects of bad weather on agricultural output. Industrial output, particularly manufacturing (which grew by over 8 per cent), grew rapidly and exceeded its target rate of growth. Bottlenecks (power cuts) and restrictive policies (which sharply increased financial costs) had adverse effects on the growth of particular industrial branches, such as cement, petroleum products, iron and steel and non-ferrous metals. Construction remained relatively depressed for the fourth consecutive year. Service output decelerated for the second consecutive year and, together with the decline in agricultural output, was responsible for the slowdown in total output growth.

The evolution of *domestic demand* (table 2.1.2) was not very similar in these countries. In Greece it was virtually stagnant; it increased in Spain by less than 1 per cent; in Turkey by over 3 per cent; and fell in Portugal by some 6 per cent. The most drastic change was in Portugal, where domestic demand had expanded in the period 1980-1982 by about 5 per cent per year in volume, far more than in most west European countries. The change in 1983 was policy-induced and prompted by the high levels of external debt, the large current account deficit of 1982 and persistently high levels of inflation (25 per cent in 1983). The relative growth rates of the different components of domestic demand were also quite different among this group of countries. The most important component for future growth, namely fixed capital formation, fell for the fourth year in succession in Greece and, except for public enterprise investment which stagnated, contracted severely in Portugal. In Spain, fixed capital formation decreased by about 1 per cent, the decline affecting both investment in construction (affected by a decline in subsidized house building) and in equipment goods (mainly because purchases of transport equipment decreased). Investment in machinery probably stagnated.

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[99] Preliminary national accounts data, released by the National Institute of Statistics in March 1984, broadly agree with the Bank of Spain's estimates. The main differences are a somewhat higher estimate of agricultural output growth (4 per cent) and a lower growth of industrial output (2.3 per cent).

TABLE 2.1.2

**Annual changes in the volume of demand in selected south European countries**
(*Annual percentage changes*)

| | 1970–1973 | 1974–1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|
| *Greece* | | | | | | |
| GDP at market prices | 7.8 | 3.8 | 1.6 | −0.4 | — | — |
| Domestic demand (GDP + imports − exports) | 8.2 | 3.0 | −1.0 | 1.0 | 2.6 | 0.2 |
| Private consumption | 7.1 | 4.1 | −0.1 | 1.2 | 1.7 | 0.2 |
| Public consumption | 5.8 | 7.5 | 0.2 | 6.7 | 1.0 | 2.5 |
| Fixed capital formation | 8.9 | 0.5 | −9.4 | −8.6 | −1.0 | −0.5 |
| Exports of goods and services | 17.6 | 7.8 | 6.5 | −4.1 | −9.0 | −3 |
| Imports of goods and services | 15.4 | 3.1 | −6.6 | 3.4 | 5.1 | −1 |
| *Portugal*[a] | | | | | | |
| GDP at market prices | 8.7 | 2.8 | 4.1 | 0.5 | 3.5 | — |
| Domestic demand (GDP + imports − exports) | 9.5 | 2.2 | 6.1 | 1.4 | 3.9 | −6.0 |
| Private consumption | 7.9 | 2.5 | 3.4 | 2.1 | 2.0 | −1 |
| Public consumption | 7.5 | 9.0 | 3.7 | 3.0 | 3.5 | 5 |
| Fixed capital formation | 11.1 | −0.5 | 10.3 | 5.1 | 2.9 | −7 |
| Exports of goods and services | 7.7 | 2.8 | 7.1 | −2.7 | 6.0 | 16.5 |
| Imports of goods and services | 10.1 | 0.2 | 12.4 | 1.0 | 6.0 | −7.5 |
| *Spain* | | | | | | |
| GDP at market prices | 6.3 | 2.5 | 1.5 | 0.4 | 1.3 | 2.1 |
| Domestic demand (GDP + imports − exports) | 6.3 | 1.9 | 2.0 | −1.8 | 0.5 | 0.7 |
| Private consumption | 6.5 | 2.5 | 1.4[b] | −1.3[b] | 0.4[b] | 0.9[b] |
| Public consumption | 5.5 | 5.5 | 4.4 | 2.0 | 6.1 | 2.3 |
| Fixed capital formation | 7.6 | −1.0 | 3.2[c] | −5.2[c] | −1.8[c] | −1.1[c] |
| Exports of goods and services | 14.8 | 9.0 | 0.6 | 7.9 | 7.0 | 7.5 |
| Imports of goods and services | 12.0 | 3.8 | 3.4 | −4.0 | 3.4 | — |
| *Turkey* | | | | | | |
| GDP at market prices | 6.2 | 5.4 | −0.7 | 4.4 | 4.4[d] | 2.9[d] |
| Domestic demand (GDP + imports − exports) | 6.6 | 5.1 | 0.4 | 2.0 | 0.9 | 3.4 |
| Private consumption | 5.8 | 4.1 | −0.5 | 2.9 | 3.1 | 4.6 |
| Public consumption | 6.4 | 8.4 | 9.2 | 14.7 | 2.7 | 1.8 |
| Fixed capital formation | 8.6 | 4.9 | −9.2 | 3.9 | 3.0 | 4.2 |
| Exports of goods and services | 15.5 | 1.6 | 5.1 | 62.2 | 36.1 | .. |
| Imports of goods and services | 17.6 | −1.7 | 22.5 | 11.1 | 7.7 | .. |

*Sources*. National accounts of OECD countries, OECD, *Economic Outlook*, December 1982 and 1983, Greece Bank of Greece, *Monthly Statistical Bulletin*; OECD, *Economic Surveys, Greece*, November 1983, Portugal Banco de Portugal, *Relatrio do Conselho de Administração*, annual issues, and *Boletim trimestral*, Ministerio das Finanças e do Plano, *Grandes opções para 1984*, September 1983, Spain - *Contabilidad nacional de España base 1970*, annual issues, Banco de España, *Boletin económico*, Turkey T.C. Maliye Bakanligi, *Yillik Ekonomik Rapor 1983* and *Aylik Ekonomik Göstergeler*, OECD, *Economic Surveys, Turkey*, April 1983, State Planning Organization, *1984 Annual Programme*, Ankara, 1983

[a] As for footnote b in table 2 1 1
[b] Excluding consumption by non-nationals
[c] Gross capital formation (including stock changes)
[d] Gross *national* product

Although less dynamic than in 1982, public investment, particularly in public works, continued to be the fastest growing investment sector.[100] In Turkey, total fixed capital formation increased by over 4 per cent, private investment expanding by nearly 6 per cent. The 6.5 per cent increase in the current dollar value of imports of machinery and equipment during the first three quarters of 1983 suggests that investment in machinery might have slowed down.

*Stock data* in southern Europe are not very reliable, but it seems that there was a decline in Greece, Spain and Turkey and a large fall in Portugal (of about 5 per cent of GDP).

*Public consumption* growth accelerated in Greece, where it was the most rapidly expanding sector of demand, and slowed down in Spain and Turkey under the influence of policies aiming to reduce public sector deficits. In Portugal such policies have not reduced the growth of public consumption, although public investment fell. Private consumption at best stagnated in Greece and fell in Portugal, but recovered slightly in Spain and grew by 4.6 per cent in Turkey, where it was the main support to output growth.

The stimulus from *exports of goods and services* was also very dissimilar among these countries. In both Iberian countries, the volume of exports of goods and services increased rapidly in 1983 (by 7.5 per cent in Spain and by more than 16 per cent in Portugal) accounting, in the case of Spain, for more than half the expansion of output[101] and in Portugal preventing a contraction in total output.[102]

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[100] The INE estimates (cf. previous footnote) give a higher rate of growth for public consumption in Spain (3.9 per cent), a fall of 12.1 per cent in gross fixed capital formation, and a slightly smaller increase in private *national* consumption (i.e. excluding the consumption of non-nationals in Spain) Including the latter, private domestic consumption rose 1.2 per cent

According to OECD estimates[103] foreign demand continued to play a negative role in Greece as exports of goods and services decreased for the second year in succession, although not as severely as in 1982.[104] Trade data for 11 months of 1983 suggest that this estimate could be somewhat pessimistic as the volume of exports increased by 9 per cent over the same period of 1982, while export unit values increased by over 18 per cent. Even assuming a bad performance of service exports, a positive, if moderate, increase in exports of goods and services seems possible. The equivalent data for imports show a decline in volume of 1 per cent and an increase in the average import unit value of over 25 per cent. These data suggest either an underestimate of the growth of total output or a large transfer of resources abroad during 1983.

Data for exports of goods and services are not available for Turkey on a national accounting basis; however, the available balance of payments data (in current dollars) suggest that the growth of exports of goods and services fell in 1983.

### (b) *Prices, wages and employment*

As measured by the GDP deflator, there was a substantial deceleration of the rate of inflation in Greece in 1983, although the rate – over 20 per cent – still remains well above those of other western countries (table 2.1.3). The increase in consumer prices, however, shows little significant change, and wholesale prices increased under the influence of the 24 per cent depreciation of the drachma against the dollar, which considerably increased import prices.

Data on wages and incomes in *Greece* are only available for the first quarter of the year. During this period wage rates and the weekly income of industrial and handicraft employees were increasing somewhat faster than the cost-of-living index but, for the year as a whole, real wages might decline as a result of the compulsory incomes' policy measure to postpone automatic pay rises for four months (implemented in September).

Employment data for Greece are not very reliable. However, all the indicators point to a deterioration of the labour situation. The employment index for July 1983 was 2.5 per cent lower than a year earlier and the unemployment index in June 1983 was 29 per cent higher than a year earlier. The only favourable sign was a decline in the number of dismissals with respect to the previous year.

According to the preliminary national accounts (September 1983), inflationary pressures increased again in *Portugal* during 1983. Price increases accelerated throughout the year, partly as a response to policy measures such as the suppression of food subsidies and the introduction of more realistic pricing by public utilities as well as the inflationary effects of the depreciation of the escudo (28 per cent, year-on-year, against the dollar).

Real wages fell again in 1983. The increase in the total wage bill is estimated to have increased (September estimates) by less than 19 per cent, while the increase in consumer prices was 25

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[101] In Spain, the stimulus to output came during the first half of 1983 mostly from consumption demand and in the second half from foreign demand.

[102] The import surplus in Portugal (on a national accounting basis) fell from 19.7 per cent of GDP in 1982 to less than 12 per cent in 1983.

[103] OECD, *Economic Outlook*, December 1983.

[104] The fact that in Greece prices increased in the period 1980-1982 by some 77 per cent while the effective exchange rate decreased by only 27 per cent explains part of this unfavourable performance. There were also unfavourable trends in shipping income.

TABLE 2.1.3

**Annual price changes in selected south European countries**
(*Percentages*)

| | 1970–1973 | 1974–1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|
| *Greece* | | | | | | |
| GDP deflator | 7.9 | 15.5 | 17.8 | 20.0 | 25.4 | 20.5 |
| Wholesale prices | 9.1 | 16.4 | 28.4 | 25.9 | 16.0 | 18.7[N] |
| Consumer prices: Total | 6.5 | 16.2 | 24.9 | 24.5 | 21.0 | 20.5 |
| Food | 8.4 | 16.7 | 27.6 | 30.1 | 21.1 | 18.1 |
| *Portugal* | | | | | | |
| GDP deflator | 6.1 | 20.1 | 19.3 | 18.4 | 22.5 | 23.3 |
| Wholesale prices | 5.6 | 25.1 | 6.5 | 21.5 | 19.1 | 23.3[O] |
| Consumer prices | | | | | | |
| Total (excluding rent) | 8.7 | 23.7 | 16.6 | 20.0 | 22.4 | 25.1 |
| Food | 8.2 | 27.0 | 10.4 | 19.5 | 24.1 | 23.6[N] |
| *Spain* | | | | | | |
| GDP deflator | 8.8 | 18.3 | 13.7 | 13.2 | 13.1 | 11.5 |
| Wholesale prices[a] | 6.1 | 14.7[b] | 17.4 | 15.7 | 12.2 | 13.4[A] |
| Consumer prices: Total | 8.4 | 18.4 | 15.6 | 14.5 | 14.4 | 12.1 |
| Food | 8.3 | 17.2 | 9.1 | 13.6 | 15.0 | 10.7 |
| *Turkey* | | | | | | |
| GDP deflator | 16.9 | 33.8 | 99.8 | 42.0 | 27.9 | .. |
| Wholesale prices | 15.3 | 32.7 | 107.2 | 36.8 | 25.2 | 30.6 |
| Consumer prices: Total | 13.5 | 31.4 | 116.6 | 35.9 | 27.1 | 28.0 |
| Food | 13.2 | 32.3 | 106.7 | 40.7 | 29.0 | 29.6 |

*Sources*: For GDP deflator, as for table 2.1.1. For wholesale and consumer prices, ECE Indicators; ILO monthly memorandum on consumer price indices; OECD Press Release, mid-February 1984, and Greece – Bank of Greece, *Monthly Statistical Bulletin*, Portugal – Instituto nacional de estatistica, *Boletim mensal de estatistica*, Banco de Portugal, *Boletim trimestral*, Spain - Instituto nacional de estadistica, *Boletin mensual de estadistica*, *Indices de precios industriales*, and *Indices de precios de consumo*, Banco de España, *Boletin estadistico*, Turkey – State Institute of Statistics, *Aylik Istatistik Bülteni* and *Aylik Fiyat Indeksleri Bülteni*

[a] 1970–1973 is based on the old wholesale price index, which was discontinued in July 1980. This index gives a 14.6 per cent annual rate of increase for 1974–1979

[b] 1975–1979

A = January-August; O = January-October; N = January-November per cent. Latest estimates suggest that real disposable income also fell.

The data on employment and unemployment in 1983 are still very limited, but total employment in the second quarter of 1983 was nearly 2 per cent lower than a year earlier. The increase in the number of registered unemployed between November 1982 and November 1983 was nearly 13 per cent.[105]

In *Spain* the GDP deflator and the consumer price index show a deceleration of inflationary pressures in 1983, although consumer prices accelerated during the second half of the year, mainly because of higher food prices. The imported element of inflation in 1983 was much more important than in 1982 as the peseta price of imported goods increased on average by some 21 per cent as against 15 per cent in 1982. Much of this increase was due to the revaluation of the dollar, which accounted for about a quarter of the increase in domestic prices in 1983.[106]

The behaviour of salaries has been much influenced by the limit to increases (12.5 per cent) set out in the wage agreements for 1983 and signed by several major trade unions and employers' organizations. According to a recent estimate,[107] average earnings per person might have risen by one point above the agreed limit. Real labour costs accelerated in 1983 (contrary to what had happened in 1982) due to the faster increase of money wages during the second half of the year. The index of average earnings per employee, deflated by the index of consumer prices, rose 1.7 per cent during the first three quarters of the year. Unit labour costs are estimated to have increased, for the year as a whole, by 10.3 per cent compared with 10.8 per cent in 1982.

The GDP deflator rose 11.5 per cent in 1983, more than the rise in unit labour costs (10.3 per cent), implying a recovery in the gross operating surplus of enterprises. The recovery seems to have been concentrated mainly in the export sectors and in the first half of the year. According to preliminary estimates, the labour share of national income declined in 1983, the nominal wage and salary bill increasing by 11.8 per cent compared with a rise of 15.9 per cent in net enterprise surplus. However, part of this increase is due to the large increase (4.5 per cent) in non-salaried employment of which the income is included in net enterprise surplus.

According to the active population enquiry, total employment decreased during the first three quarters of the year by some 42,000 persons (much the same fall as in 1982), the result of a decrease in salaried employment of 98,000 and an increase of 56,000 in non-salaried employment.[108] Unemployment continued to increase (by 100,000 persons) to reach 2.3 million or 17.8 per cent of the active population compared with a rate of 17.1 per cent at the end of 1982. The increase in active population (52,000 persons) meant that the increase in unemployment was proportionally greater than the fall in employment. This is due to the increase in women's activity rates, which more than compensated for a slight decline in males' activity rates.

The rate of inflation remained high in *Turkey* during 1983. As measured by the GDP deflator, the increase in the general price level, which had been about 100 per cent in 1980, fell to 42 per cent in 1981 and 28 per cent in 1982. In 1983 the increase in the general price level will probably exceed 30 per cent. The acceleration of inflation in 1983 was due to a rapid increase in unit labour costs (mainly due to a fall in productivity) and the effects of a high rate of currency depreciation. The easing of monetary policy in the last quarter of 1983 might also have reinforced the inflationary tendencies in the economy.

Employment trends continued to be unfavourable and the official unemployment rate, which includes an estimate of disguised unemployment in agriculture of 665,000, increased to 19 per cent of the civilian labour force. The agricultural sector continued to release labour at a rather high rate, leading to a loss of agriculture's share in total employment of 2 points, while employment in the industrial sector share did not change and that in services increased.

### (c) *Policies and prospects*

The policy of fiscal stimulus adopted in *Greece* in 1981 led to an upturn in domestic demand in 1982 which led to an increase of inflationary pressure. The stance of policy became increasingly restrictive during the second half of 1982 and, in 1983, the policies of restraint were continued and in many cases reinforced. There was a limited degree of success in 1983 in lowering the public sector borrowing requirement, but inflationary pressures have remained high and the current account deficit was more than 5 per cent of GDP. Monetary and credit policies were tightened throughout 1983 and private consumption discouraged by the postponement of automatic pay adjustments (see above) and a reduction of real wages in the higher income brackets. Part of the effect of these measures on disposable incomes, however, appears to have been offset by a fall in the households' savings ratio. The most important short-term policies implemented during 1983 were those aimed at restoring the competitiveness of Greek exports, namely the 15.5 per cent devaluation in January and the August decision to unpeg the drachma from the US dollar, which led to a fall in the effective exchange rate. The effects of these measures on trade and the balance of payments are not yet known. These policies were reinforced in September 1983 by new measures aimed at promoting exports and increasing investment incentives in general, particularly for medium-sized and small exporters. These, mostly short-term, policies were supplemented by others aimed at increasing the long-term efficiency of resource allocation and productivity; the latter included the abolition of many preferential interest rates, the avoidance of restrictive and monopolistic practices by the creation of supervisory councils at branch level, and the creation of an organization aimed at the economic rehabilitation of business firms in difficulties.

Under the influence of an unsustainably high current account deficit in 1982 (equivalent to nearly 14 per cent of GDP), high levels of external debt, and rising inflation, economic policies in *Portugal* have been increasingly restrictive since mid-1982. The government has tried to keep wage increases lagging behind the increase in the cost of living, with the effect that the nominal increase in the wage and salary bill for 1983 was about 6 points below the increase in the consumer price index. Monetary policies were tightened in March and again in August (when the discount rate was increased) and fiscal policies became more restrictive with higher taxes and increases in the prices of public services. Moreover, a number of important administered prices (milk, sugar, cereals, etc.) were increased in order to reduce public expenditure. The measures to stop the deterioration of the current account included devaluation, import quotas, a temporary increase in the import surtax (to 30 per cent in February) and the introduction of measures to prevent capital flight and discourage travel abroad. A result of these policies was the reduction of the current deficit from $3.2 billion to about $1.7 billion or from about 14 per cent of GDP to around 8 per cent.

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[105] Ministry of Labour estimates.

[106] Statement by the Minister of Economics and Finance, *El Pais*, 15 February 1984.

[107] Banco de España, *Boletin Economico*, January 1984.

[108] This increase may reflect growing underemployment in handicrafts, agriculture and some service sectors.

These deflationary policies, approved by the IMF, were strengthened in December 1983 by proposals to reduce the state budget deficit still further in 1984. The urgent need to redress the foreign balance has somewhat pushed into the background other measures which have been taken to modernize certain sectors of the economy and to increase its efficiency. Perhaps the most important of these, and one which affects the institutional character of the economy, was the decision taken in November to allow private enterprise into certain sectors which had been nationalized in 1975, namely, banking, insurance, and cement and fertilizer production.

Economic policy in *Spain* moved rapidly towards restriction in December 1982 when the peseta was devalued and fiscal and monetary policies tightened. The aim of these policies was "to put the economy on a sound footing in order to be able to grow faster than other countries when the world economic revival takes place".[109] These policies continued throughout 1983 and became more severe towards the end of the year, particularly monetary policy (with increases in the reserve ratios of banks). The results of these policies have been a reduction in the difference between Spain's rate of inflation and that in the industrially more advanced western countries, a reduction of the current deficit from $4.1 billion to about $2.5 billion[110] and a containment of the public sector borrowing requirements to about the same level as in 1982 (namely, about 5.5 per cent of GDP). The main unfavourable element continues to be the rising level of unemployment. Fiscal and monetary policies will remain restrictive in 1984, as will incomes policy since the limit on wage increases in the public sector (6.5 per cent) is less than the forecast rate of inflation (8 per cent). However, in the absence of agreement among the social partners it is unclear to what extent this limit will hold. More structural changes have taken place, for example, in the methods of financing the public deficit (greater reliance on short-term treasury bills sold in the open market) and with the introduction in November of the "law of industrial reform and reindustrialization". The law aims on the one hand at facilitating the necessary adjustments (in employment, equipment and technology) of industrial branches which are presently uncompetitive but susceptible of being rejuvenated and, on the other, at directing the human and technical resources released by declining branches towards others in which demand is likely to be more dynamic. Apart from familiar fiscal and financial incentives, the law envisages the creation of "zones of urgent reindustrialization" (ZURs) in areas of high unemployment or particularly affected by the employment losses of declining industries.

In *Turkey* monetary and fiscal policies were less restrictive than originally planned in 1983. The rapid deterioration of the current account, brought about by the sharp deceleration of export growth (after two years of rapid growth) and the decline in emigrants' remittances, the rapid increase in the government's budget deficit during the second half of 1983, and the acceleration of inflation, led to the introduction of a new set of stabilization measures in December 1983. The general character of these closely resembles the reform measures of January 1980, which were based on a reinforcement of market forces and the general objective of export-led growth. In the short run the 1983 programme aims to restrain final domestic demand (particularly consumption) by the introduction of tighter fiscal and monetary measures. The reduction in the public sector deficit is expected to follow from increased taxes and, mostly, from a reduction in the deficit of public enterprises by reducing transfers to enterprises in deficit and increasing their prices. Interest rates will be raised and it is expected that liquidity and credit expansion (except for investment) will diminish.

Apart from increasing a series of fiscal incentives to export, the export-led growth philosophy is also made clear by the abandonment of import substitution policies, the adoption of measures of import liberalization and the intention to free the exchange rate. Moreover, foreign investment will be further encouraged.

Prospects for the south European countries in 1984 do not seem particularly bright at present. According to official forecasts GNP growth is expected to accelerate in Turkey to 5 per cent but this forecast does not seem to take fully into account the more restrictive economic policy stance. The more modest target for Spain of 2.5 per cent GDP growth seems well within reach and might even be exceeded. In Greece some recovery is expected in 1984 but, given the present restrictive policies, total output might expand well below the average medium-term GDP growth target (of 3.5-4.0 per cent) set out in the Preliminary Plan for 1983-1987. In Portugal the stabilization policies being followed at present are expected to lead to a further fall of domestic demand (of about 4 per cent) and a fall of 1 per cent in GDP.

Official forecasts in all four countries assume a further decline in the current account deficit, with a particularly large fall in Portugal. The improvements might not be as large as forecast in Spain (because of the likely recovery of domestic demand in the second half of the year which might lead to restocking) and in Turkey (unless the rate of expansion of final domestic demand is reduced by the introduction of more restrictive policies). Unemployment should increase in Greece, Portugal and Turkey, and, at best, stabilize in Spain.

Rates of inflation will continue to be high in 1984 in all four countries, for even if real wages decline under the influence of incomes policies, productivity growth is likely to be unfavourable. Moreover the inflationary effects of rising indirect taxes and higher import prices are not expected to subside very much. Even if there is a small decline in south European rates of inflation, the gap with respect to the rates of the industrially more advanced countries will still remain wide.

### (ii) Yugoslavia

#### (a) *Introduction*

As in most south European countries, economic policy in Yugoslavia has been increasingly determined since 1980 by balance of payments and external debt considerations.

After many years of high import growth and a rising trade deficit, the deficit began to decline in 1980, so that in 1983 it had fallen to some 30 per cent of its 1979 level ($7.2 billion).[111]

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[109] *Economic Survey of Europe in 1982*, p.92.

[110] The above rough estimate is based on the application of the decrease of the cash-based current deficit ($1.5 billion) to the transaction-based data of 1982 following the suggestions given by the Bank of Spain (*Boletin Economico*, January 1983). A recent ministerial statement puts the current deficit for 1983 at a substantially lower level, namely $2.1 billion (see *El Pais*, 15 February 1984).

[111] The data in this section, unless otherwise stated, are based on the Federal Statistical Office of Yugoslavia, *Saopštenje* (Communique), vol. XXVII, No. 415, 23 December 1983; National Bank of Yugoslavia, *Godišnji izvestaj* (Annual Report) 1982, and *Bilten* (monthly Bulletin); Federal Statistical Office, *Statisticki godišnjak Jugoslavije* (Statistical Yearbook) and *Indeks* (monthly review of economic statistics): documents published in *Službeni list Jugoslavije* (Yugoslav Official Register), vol. XXXIX, No. 70, 30 December 1983; the four volumes of *Dokumenti komisije* (The Documents of the Commission for Problems of Economic Stabilization), Centar za radnicko samoupravljanje, Belgrade 1982-1983; and, in some cases, on direct communication between the institutions mentioned and the ECE secretariat

The deficit in convertible currency was reduced even more and fell to just over one quarter (27.3 per cent) of its record level in 1979. For the first time in 17 years exports covered more than 80 per cent of imports.[112] As the traditional surplus on services and transfers did not deteriorate, the Yugoslav current account balance improved from a deficit of more than half a billion dollars in 1982 to a $60 million surplus in 1983. Here again the improvement in the convertible currency balance was even stronger, the deficit falling from more than one and a half billion dollars in 1982 to a surplus of $100 million in 1983, an absolute change of more than $1.6 billion. Together with the surplus of $270 million on the capital account, this improvement helped to replenish the foreign exchange reserves without a substantial increase in overall indebtedness.

In order to achieve such a large shift of resources into the foreign account, final domestic demand was reduced significantly: between 1980 and 1983 it fell by some 13 per cent and in 1983 alone by more than 5 per cent. The bulk of the adjustment – as in most other countries in a similar situation – fell on imports, the volume of which in 1983 was less than three-quarters of the record level in 1979. In spite of the positive effect of the improvement in the foreign balance of goods and services, the steady decline of domestic demand and the widespread shortages of imported inputs that could not be replaced by domestic production led to a sharp fall in the growth of social product, from 7 per cent in 1979 to only 2.3 per cent in 1980 and then to an absolute contraction of about 1 per cent in 1983, the first decline in more than three decades.[113]

The slowdown in economic growth had many adverse effects. Employment outside agriculture grew by only 2 per cent in 1983 compared with 4.4 per cent in 1979, and the number of registered unemployed, for the second consecutive year, rose by about 6 per cent, twice as fast as in the years before 1982. The overall stance of monetary policy continued to be restrictive and the money supply grew at a substantially lower rate than in the previous two years. However, the declining supply of goods, the result of reductions in both direct imports and import-dependent domestic production, of unfavourable weather conditions, which particularly affected electricity production, combined with deficiencies in price and income policies, had a greater influence on prices. Hence, after a significant deceleration in 1982, the overall inflation rate in 1983 increased to more than 40 per cent per year. Agricultural prices rose even more, by some 52 per cent. Altogether, living costs increased by some 40 per cent, while wages, which nominally have grown at declining rates since 1981, decreased in real terms by about 25 per cent between 1980 and 1983 (and by about 12 per cent in 1983 alone).

Taking into account world economic developments since the end of the 1970s and the shortcomings of economic policy in Yugoslavia, particularly in the second half of the 1970s, the negative effects of recent economic policies were an inevitable consequence of the need for substantial adjustment to changed external and internal conditions. However, if the need for change cannot be questioned, there may be doubts as to whether the pace and methods of adjustment are likely to produce comprehensive and lasting results.

In Yugoslavia itself the inadequacy of an adjustment which responded only to balance of payments and foreign debt problems was recognized relatively early, and in the autumn of 1981 a high ranking state Commission for Problems of Economic Stabilization was formed to consider all kinds of external and internal imbalance, to prepare the basis for a comprehensive long-term programme of economic stabilization and to make proposals for a more efficient functioning of the economic system. The findings and recommendations of the Commission were discussed and approved by the Yugoslav Parliament at the beginning of July 1983. In this way current economic policy measures and long-term development objectives were placed in the context of a comprehensive long-term stabilization programme, a programme which has already been reflected in several changes in economic policy since July 1983.

### (b) *Demand, output and supplies*

After its very high rate of 7 per cent in 1979, the growth of social product has been decelerating ever since (table 2.1.4 and chart 2.1.1). The sharpest decline in the growth rate, from 7.0 per cent to 2.3 per cent, was in 1980. Thereafter it decelerated more slowly in the following three years, and in 1983 there was an absolute fall of about 1.3 per cent. The development of national output reflects changes on both the demand and supply side, and within the main sectors of production.

The figures in table 2.1.4 clearly show that on the demand side it was *domestic demand* that lost momentum after 1979. In fact, the uneven, but nevertheless persistent, decline in total domestic demand in the last four years (by about 11 per cent) was the outcome of a deliberate policy to shift resources from domestic demand to the foreign sector and so gradually reduce the huge imbalances which had accumulated in the 1970s. Final domestic demand contracted even faster than total domestic demand, mainly because at the beginning of the slowdown there was still some increase in stockbuilding. All the components of final domestic demand contributed to the contraction, but at significantly different rates.

The least affected sector so far has been *private consumption*. Such an outcome partly reflects the general resistance of private demand to downward changes. However, the fact that in four years private consumption fell by only slightly more than 2 per cent, while total final demand fell by more than 13 per cent requires some further explanation, the more so as real wages – discussed below – fell even more than final domestic demand. The relatively small decline in private consumption can be attributed to three main factors – a significant inflow of remittance income from abroad, a high level of savings accumulated in previous years, and the still high percentage of self-employed people, particularly in agriculture, whose incomes are less accessible to restrictive economic measures.

The next most affected sector of final domestic demand has been *collective (public) consumption*, the cumulative fall of which during the last four years was almost the same as that of total domestic demand, some 10 per cent. In fact, policy objectives throughout the period were for a still larger contraction but, for a number of institutional and other reasons, public expenditure proved to be resistant to further costs.

The fall in final domestic demand has therefore fallen most heavily on *gross fixed investment*. Between 1980 and 1983 it has fallen by almost 30 per cent, and is now below its level in 1975. Apart from being a normal feature of market economies during a recession, the relatively large decline of investment in Yugoslavia was due to two other factors. These are the very

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[112] Apart from 1947 and 1948, when the total foreign trade turnover was very small, the highest export-import ratio was 84.7 per cent in 1965, the first year of economic reform. With some upward deviations in individual years, this ratio declined steadily to 48.5 per cent in 1979. Since then the ratio has risen, reaching 82 per cent in 1983 – *Statistika spoljne trgovine* (Foreign Trade Statistics), Federal Statistical Office, Belgrade 1982, p 17 and *Saopštenje* ...., p.21-22 and table 2.1.8 below

[113] Since the war Yugoslav national output, until 1983, had contracted only twice, in 1950 and 1952, by some 10 and 15 per cent. In both years the drop in agricultural production, by 27 and 34 per cent respectively, was responsible for more than nine-tenths of the total fall. Figures calculated on the basis of the *Statistički godišnjak Yugoslavije* (Statistical Yearbook), vol VII, 1960, p.104.

TABLE 2.1.4

**Yugoslavia: Volume growth of demand and output**

| | 1982 | | Annual percentage change at constant 1972 prices | | | | |
|---|---|---|---|---|---|---|---|
| | Billion current dinars | Percentage shares | 1979 | 1980 | 1981 | 1982 | 1983 |
| Final domestic demand | 2 626 | 85.9 | 5.0 | −1.4 | −4.3 | −2.45 | −5.5 |
| Private consumption | 1 511 | 49.2 | 5.6 | 0.7 | −1.0 | −0.1 | −1.7 |
| Collective consumption | 260 | 8.5 | 4.5 | −1.0 | −4.8 | −0.7 | −4.0 |
| Gross fixed investment | 855 | 28.2 | 6.4 | −5.0 | −9.8 | −5.5 | −12.5 |
| Total domestic demand | 3 071 | 100.0 | 4.7 | −1.0 | −3.3 | −2.2 | −4.3* |
| Changes in stocks | 311 | 10.2 | 4.3 | 1.4 | 3.0 | −3.1 | 4.0* |
| Statistical discrepancies | 134 | 3.9 | −0.7 | −4.4 | −1.0 | 3.0 | |
| Foreign balance (goods and services) | −144 | | −2.4 | 5.3 | 3.2 | 2.7 | 8.9* |
| Social product | 2 927 | 100.0 | 7.0 | 2.3 | 1.5 | 0.7 | −1.3 |
| Agriculture[a] | 448 | 15.3 | 5.7 | — | 1.4 | 7.5 | −2.1 |
| Industry[a] | 1 226 | 41.9 | 7.9 | 4.2 | 4.2 | 0.1 | 1.3 |
| Construction[a] | 293 | 10.0 | 9.6 | 2.2 | −4.3 | −6.4 | −14.0 |
| Transport[a] | 240 | 8.2 | 4.1 | 4.1 | 1.2 | −2.9 | 2.0 |
| Industrial output per worker | . . | . . | 4.2 | 1.9 | 1.6 | −2.7 | −1.0 |

*Source:* National statistics and direct communication to ECE

[a] Index of physical volume output

high and unsustainable rates of investment (and also its high share of utilized social product) in the second half of the 1970s, and the deliberate policy decision to place most of the burden of adjustment on investment. From this point of view, economic policy was successful, as investment outlays are much easier to control. However, such a policy has had a price – not only because some sectors were directly affected (e.g. construction[114]) but also because it reduced the room for manoeuvre necessary for structural adjustment and for the urgently needed growth of employment (also discussed below).

The only demand component to have had a positive influence on economic growth has been the *foreign balance of goods and services*. Moreover, its contribution has become increasingly important as is clear from table 2.1.4. However, at the beginning of the period the weight of net exports was rather low so that their relatively fast improvement was unable to offset more than a small proportion of the absolute fall in domestic demand.

Despite their undoubted significance, demand factors were not the main cause of the slowdown in output growth, the more so as within all the components of final domestic demand a good deal of unsatisfied demand could be identified. The most important constraints on output growth originated on the supply side other than labour. This is particularly true for the energy and raw material sectors. Ever since the mid-1950s, the manufacturing sector in Yugoslavia has risen faster than raw materials production,[115] although all four of the last five-year plans have called for a reversal of this pattern. Consequently when output growth was at its peak the share of raw materials and energy in total imports rose to almost 64 per cent.

When the balance of trade and the level of foreign debt became decisive factors in the formulation of overall economic policy and import cuts proved to be inevitable, raw material imports were the last and the least affected component. While imports of equipment and consumer goods had already been cut in 1980, and in 1983 had fallen to only 52 and 46 of their respective values in 1979, raw material imports continued to grow until the end of 1980; thereafter they declined but at substantially lower rates than other import categories, so that even at their low point in 1982 their value was only 13 per cent below that of 1980. However, due to the large price increases for many raw materials, particularly for crude oil and gas which rose from 13 to 23 per cent of the total value of imports, the fall in volume was much more than in value, so that many branches suffered from real material shortages. The proportionate shortfall of inputs was particularly sharp for many manufacturing branches, such as metal processing, machinery, transport equipment, electrical goods, etc., but agriculture and fisheries were also affected.[116]

Meanwhile significant efforts were made to substitute national production for imported material inputs. Consequently, between 1979 and 1983, national production increased by some 18 per cent in the electricity sector, 37 per cent in coal, 18 per cent in steel, 47 per cent in aluminium and 46 per cent in synthetic materials.[117] In spite of these high rates of increase, however, indigenous raw material inputs were still not sufficient to compensate for the decline of imports, partly because production in some extractive industries stagnated or even declined. Thus, since 1981 energy and raw material supplies have been a major constraint on output. Indeed for some inputs, such as oil derivatives and electricity, temporary rationing had to be introduced at the end of 1982 and lasted throughout most of 1983.

The factors underlying the changes in the demand and supply sides of the economy also help to explain the main changes in the structure of output (table 2.1.4 and charts 2.1.1 and 2.1.2). Partly reflecting the fact that it contributes the largest share of national output (some 42 per cent in 1983), the

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[114] After a record level of 622,000 workers in both 1980 and 1981, the number of workers employed in construction in the next two years declined by almost 4 per cent. According to the Federal Council for Construction – see *Privredni pregled* (Economic Review), vol. XXXII, Belgrade, 1 November 1983, p.1 – 50 per cent of the employees in this branch will be significantly under-employed if investment continues to fall.

[115] On the basis of data in *Statistički godišnjak Jugoslavije* (Statistical Yearbook), 1981, p.263, with average growth for 1960-1980 in the industrial sector at 7.8 per cent a year, equipment production rose on average by 8.3 per cent a year and raw materials by 7.2 per cent. The relation between the two growth rates was already distorted in the mid-1950s

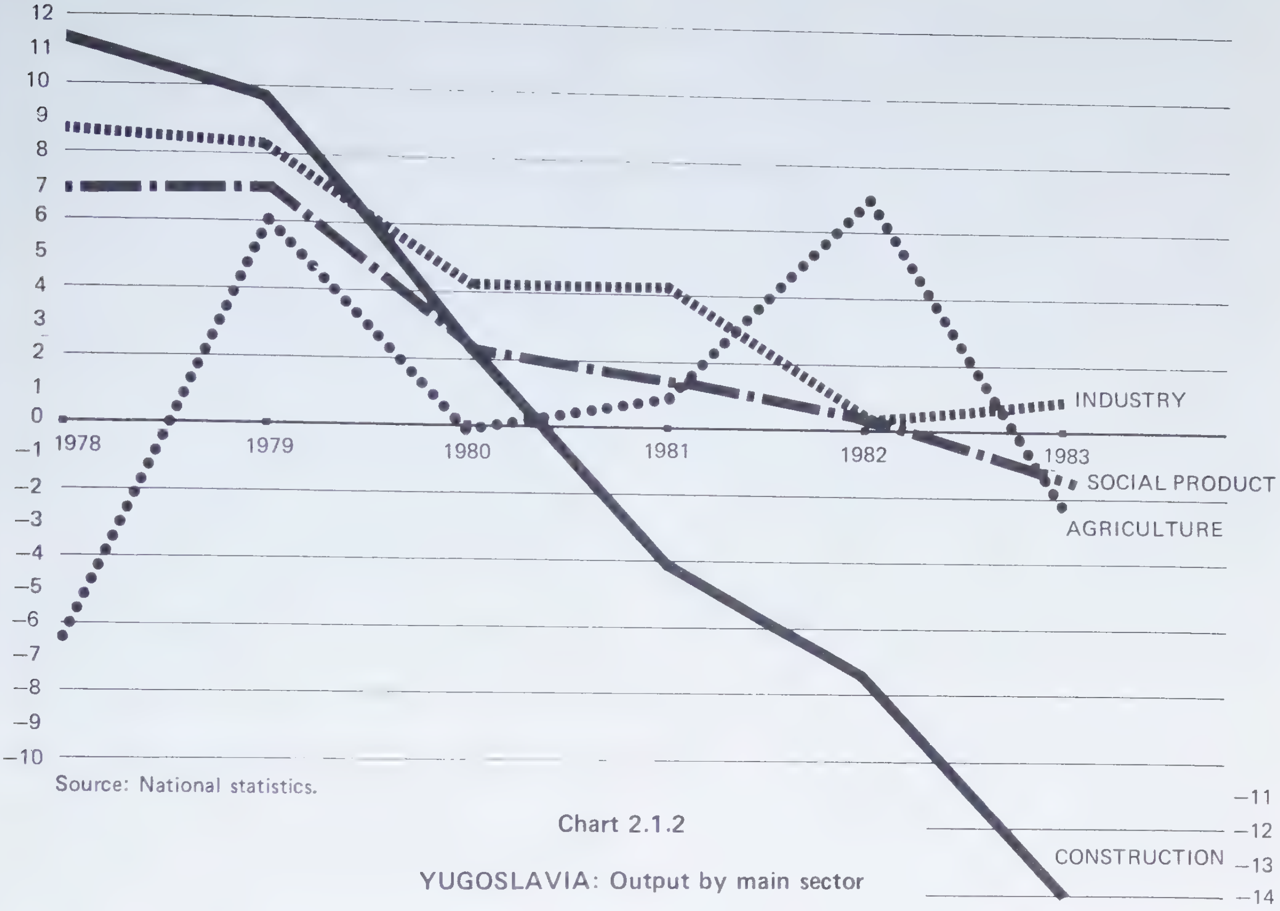
[116] The figures and statements in this paragraph are based on the *Saopštenje*, no. 415, Federal Statistical Office, 23 December 1983, p.22.

[117] *Ibid*, p.16.

## Chart 2.1.1

## YUGOSLAVIA: Output by main sector

(Annual percentage change)

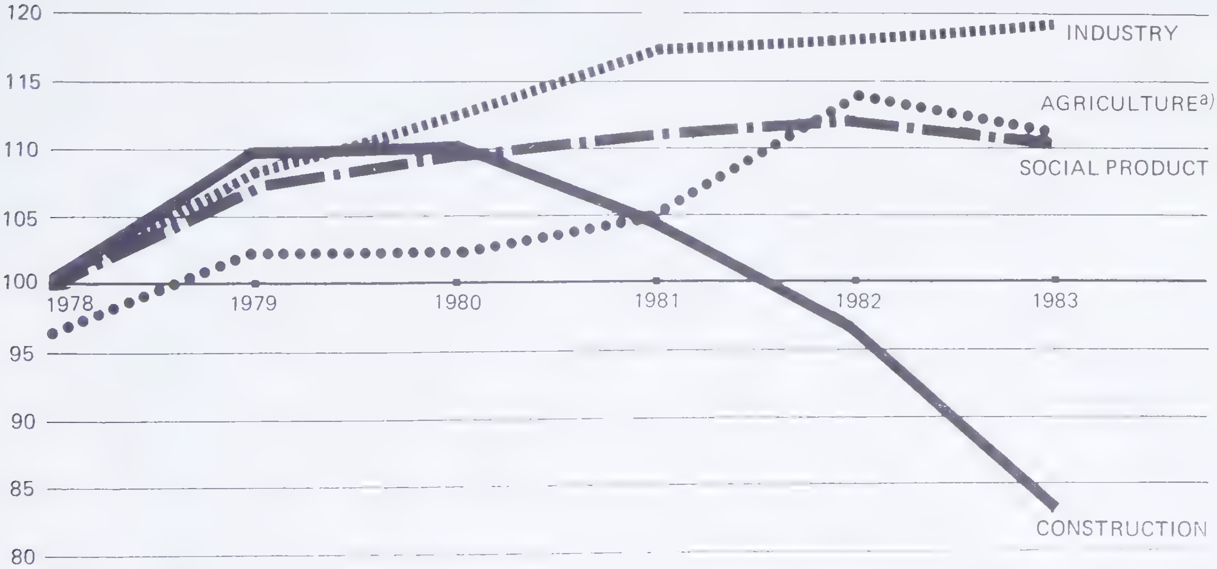


Source: National statistics.

## Chart 2.1.2

## YUGOSLAVIA: Output by main sector

(1978 = 100)



Source: National statistics.

a) For agriculture, 1976 – 1980 = 100

volume growth of *industrial output* since 1978 has been very similar to the growth of social product; but it also reflects the fact that industrial inputs were the least affected by import cuts. Thanks to this, industry has been the only large sector where there has not been any absolute contraction of output: after virtual stagnation in 1982 production actually increased by 1.3 per cent in 1983. In contrast, *agricultural output*, which on average grew by about the same rate as industry between 1979 and 1983, has fluctuated sharply from year to year with changes ranging from a 5.7 per cent drop in 1978 to a 7.5 per cent rise in 1982. This is partly due to the weather, but since 1980 declining imported raw material inputs (for which domestic substitutes are not available) and the still low percentage of industrial methods of production have also played a role. In any case, it is widely accepted that agricultural output is still substantially below its potential. Finally, *construction* has been the sector most adversely affected by the recession, which is not surprising as it was the only sector that was heavily constrained by both demand and supply. As can be seen from chart 2.1.1, its growth rate has fallen steadily since 1980, while in chart 2.1.2 it is clear that the absolute level of output has fallen since 1981 and in 1983 was about 83 per cent of its 1978 level (i.e. only slightly more than in 1976). Among the other sectors, growth in *transport* slowed down after 1980 and there was an absolute fall of some 3 per cent in 1982; the recovery in 1983 mainly reflects an increase in exports of shipping services.

In summary, the maintenance of output growth in industry, volatile agricultural output, and a sharply declining construction sector have been the main features of growth since the slowdown in total output began in 1980.

### (c) *Labour force and employment*

Thanks to a slowly declining growth rate of total population and also to an increasing share of the population of working age in full-time education, the total labour force in Yugoslavia in recent years has risen slowly, on average by 1.1 per cent a year (table 2.1.5). From this point of view, the labour market should have become easier than it used to be, the more so as during the last five years employment outside agriculture grew at an average rate of almost 3 per cent a year. However, other factors have been acting in an opposite direction and the employment situation has been worsening since 1979.

The first relevant factor is the constantly declining share of the *agricultural sector* in total population, which fell below 20 per cent only in 1981.[118] The outflow of labour from agriculture has remained high in both absolute and in relative terms[119] and this has made employment of those currently reaching working age much more difficult than it would have been otherwise. On the other hand, due to the recession in western Europe, the number of Yugoslav workers employed abroad has steadily declined since the mid-1970s: in 1983 the number was some 10 per cent lower than in 1977. Hence, a number of returnees has been added to those seeking jobs in Yugoslavia. Last but not least, the slowdown in economic activity has affected the creation of new jobs outside agriculture: the annual change in *non-agricultural employment* has fallen from 4.4 per cent in 1979 to only 2 per cent in 1983. At the same time, it should be kept in mind that even this employment growth reflects social and long-term economic considerations rather than the immediate needs of current output. Consequently labour productivity growth in non-agricultural sectors, including industry, has been declining and in recent years even falling absolutely.

Due to the factors mentioned above, the number of *registered unemployed*, which by the end of the 1970s and the beginning of the 1980s was rising by some 3 per cent a year, rose 6.6 per cent in 1982 and by slightly less than 6 per cent in 1983. Altogether, the number registered as unemployed in 1983 was about 9 per cent of the total labour force.

To better highlight the labour force and employment situation, a number of other factors should be brought into the picture. First, due to the continued outflow of labour from agriculture and the slowdown in the growth of non-agricultural employment, the number of qualified job seekers has risen substantially faster than average, while the number of unqualified job seekers has virtually stagnated, so that in 1983, for the first time, the former outstripped the latter.[120] On the

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[118] According to post-war population censuses – as reported in *Statistički kalendar Jugoslavije 1983* (Statistical Calendar), vol. XXIX, Belgrade 1983, p.38 – the share of the total population in agriculture was 67.2 per cent in 1948, 60.9 per cent in 1953, 49.6 per cent in 1961, 38.2 per cent in 1971 and 19.9 per cent in 1981. The last figure excludes those employed abroad and members of their families living with them.

[119] During the last five years agricultural employment has fallen by some 17 per cent.

[120] According to *Saopstenje* ..., p.13, the number of unqualified job seekers fell from 449,000 to 436,000 between 1979 and 1983, and that of qualified ones increased from 313,000 to 476,000, i.e. on average by 11 per cent per year.

TABLE 2.1.5

**Yugoslavia: Employment**

| | End-1982 (thousands) | Percentage shares | Annual percentage change | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1979 | 1980 | 1981 | 1982 | 1983 |
| Total population | 22 646 | 100.0 | 0.9 | 0.6 | 0.7 | 0.8 | 0.7 |
| Population of working age | 14 603 | 64.5 | 1.5 | 0.7 | 0.5 | 0.7 | 0.7 |
| Total labour force (active population) | 9 974 | 100.0 | 1.1 | 1.1 | 1.0 | 1.1 | 1.1 |
| Employment outside agriculture | 6 018 | 60.3 | 4.4 | 3.4 | 2.8 | 2.2 | 2.0 |
| Employment in agriculture[a] | 2 334 | 23.4 | –5.5 | –3.5 | –3.4 | –3.0 | –2.4 |
| Employment abroad | 760 | 7.6 | –1.3 | –2.5 | - | –1.3 | —* |
| Registered unemployed | 862 | 8.7 | 3.7 | 3.0 | 3.1 | 6.6 | 5.8 |
| Vacancies | 71 | .. | 11.1 | –2.5 | –1.3 | –7.8 | 4.2 |

*Source*: As for table 2.1.4.

Calculated as residual between total labour force and other relevant items.

other hand, due to differences in the level of overall development, the employment situation differs substantially between individual states and autonomous provinces.[121]

*Vacancies*, which contracted in each of the three years 1980-1982, increased by more than 4 per cent in 1983 which, given the rise in the number of job-seekers suggests some mis-match between the labour skills offered and those demanded. Job mobility – which by international standards is quite low – has been declining steadily and in the industrial sector was below 1 per cent of total employment in 1982 and 1983. Together with other research which shows that not all those registered as unemployed are genuinely seeking a job, this suggests that real unemployment might be lower than indicated by the official unemployment figures.

### (d) *Incomes, costs, prices and money supply*

A major objective of both short and medium-term policies in Yugoslavia has been to reduce the rate of inflation. The anti-inflation programme, which is part of the long-term stabilization programme, accepted in principle in the first half of 1982, envisaged a gradual slowing down of the inflation rate from some 40 per cent in 1981 to roughly 25 per cent by the end of 1982, 20 per cent by the end of 1983, 15 per cent by the end of 1984 and about 10 per cent by the end of 1985.[122]

Actual changes have been substantially different. After a 40 per cent rise in the GNP price deflator in 1981, the rate of inflation fell to about 32 per cent in 1982, but in 1983, instead of a continued deceleration, the rate rose once again to more than 40 per cent (table 2.1.6 and chart 2.1.3). Between 1979 and 1983 agricultural prices more than quadrupled while industrial prices rose by about three and a half times. From chart 2.1.3 it is noticeable that industrial prices also grew less than the overall rate of inflation. As might be expected, retail prices grew at rates very close to those of the GDP deflator, as did the cost of living. The relative price changes between agriculture and industry reflect a deliberate policy to stimulate the expansion of agricultural output and also to correct a number of distortions which had accumulated over many years.

However, leaving aside relative price changes, the main issue is the overall inflation rate itself, and in Yugoslavia there has been much discussion, but so far little agreement, as to its causes. However, tables 2.1.6 and 2.1.7 and also chart 2.1.3 provide some indication of possible factors. On the basis of table 2.1.6 and chart 2.1.3 the first important conclusion that might be drawn is that *import prices* did not play a decisive role after 1980. In fact, in 1979 and 1980, just after the second oil shock, import prices did have a significant influence on internal prices, but ever since 1981, import prices (in dollars) have grown at much lower rates and in 1983 even fell slightly. The main sources of inflation after 1980 would appear to be of domestic origin.

Another conclusion which might be drawn from the figures in tables 2.1.4 and 2.1.7 is that inflation in Yugoslavia is not principally due to demand-pull. As already explained, as far as domestic demand is concerned economic policy was quite restrictive and in real terms total domestic demand has been declining since 1979. Accordingly, monetary policy was deflationary and throughout the same period money supply rose substantially less than social product at current prices. While the growth of the latter ranged between some 29 and 42 per cent, that of money supply ranged between 15 and 27 per cent. Moreover, monetary policy has become more restrictive: the increase in money supply in 1981 was some 63 per cent of the increase in social product at current prices, 81 per cent in 1982 and only 40 per cent in 1983. Nevertheless the inflation rate remained high and in 1983 was still one-fifth higher than in 1982, which suggests that the main factors may be on the cost side.

Apart from import prices, discussed above, and structural imbalances, the effect of which are difficult to quantify, other

TABLE 2.1.6

**Yugoslavia: Incomes, wages, costs and prices**[a]
*(Annual percentage change)*

| | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|
| *Incomes* | | | | | |
| Total money income | 24.4 | 26.4 | 49.0 | 31.8 | 31.1 |
| Disposable income | 25.2 | 29.7 | 41.7 | 30.7 | . . |
| *of which*: | | | | | |
| Savings | 10.5 | 21.0 | 62.7 | 28.4 | |
| Saving ratio (per cent) | 12.2 | 11.4 | 13.1 | 12.9 | |
| *Wages, costs and prices* | | | | | |
| Real wages | 0.1 | −7.5 | −5.0 | −3.3 | −11.8 |
| Nominal wages | 20.5 | 20.5 | 33.6 | 27.4 | 23.9 |
| GNP price deflator | 20.7 | 30.0 | 40.1 | 31.7 | 40.3 |
| Wages costs per unit of output | 16.3 | 17.5 | 31.1 | 24.5 | 21.6 |
| Industrial producer prices | 13.2 | 27.2 | 44.7 | 25.0 | 30.8 |
| Agricultural producer prices | 25.6 | 35.6 | 52.9 | 35.0 | 52.0 |
| Export prices[b] | 14.9 | 19.3 | 8.5 | 7.2 | −0.1 |
| Import prices[b] | 19.3 | 19.6 | 10.4 | 2.0 | −0.4 |
| Retail prices | 22.0 | 30.0 | 46.0 | 30.0 | 39.0 |
| Cost of living | 20.4 | 30.3 | 40.7 | 31.7 | 40.5 |

*Source*: As for table 2.1.4
[a] Wage data refer to the whole economy
[b] In US dollars

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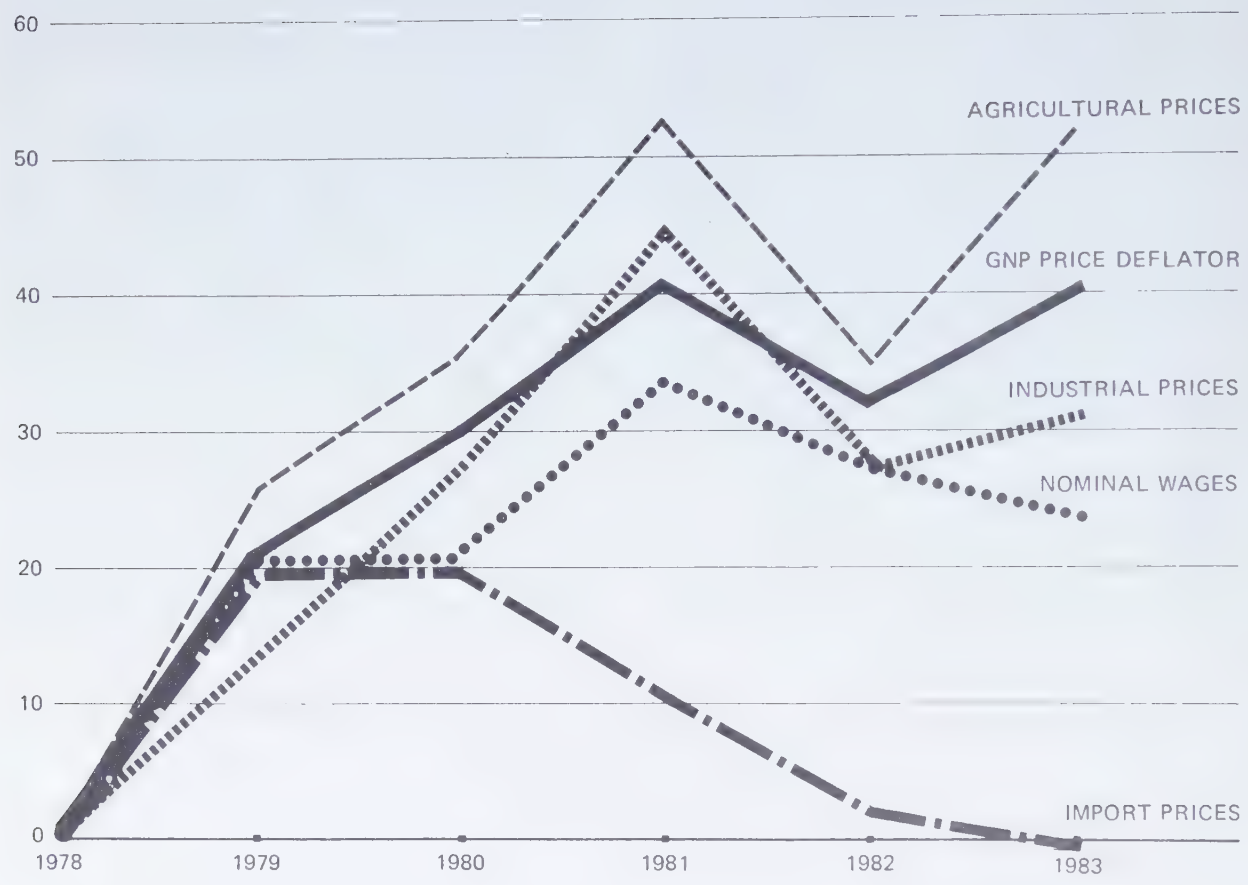
[121] The ratio of registered unemployed to the number employed in the socialist sector – often used as an overall development indicator – averaged 13.6 per cent in 1981 and it ranged from 1.5 per cent to 38.2 per cent – calculated on the basis of *Statistički godisnjak Jugoslavije* (Statistical Yearbook) XXIX, 1982, pp.406-407

[122] *Dokumenti komisije* (Documents of the Commission for Long Term Stabilization Problems), vol. I, CRS, Belgrade, 1982, p.73.

Chart 2.1.3

YUGOSLAVIA: Nominal wages and inflation

(Annual percentage change)



Source : National Statistics

possible factors may be found in the areas of income and price formation. Both these aspects have been discussed in previous issues of the *Economic Survey of Europe*[123] since the Yugoslav economic system in this respect has a number of special features. On the income side the system is, in principle, based on two assumptions. First, that the wage fund of an enterprise is a function only of its income (sales *minus* payments for material inputs and depreciation charges) and that the criteria for allocating that income between wages and accumulation should be fixed in advance. Second, that the distribution of the wage fund among the workers within each enterprise is decided by the workers themselves and may differ – even substantially – from one enterprise to another. Consequently, the theory of the system implies that the wage levels of individual economic units do not necessarily adjust to changes in the cost of living and also that wage increases in different enterprises and branches are not related. In practice, however, both assumptions appear to be unjustified. In the absence of generally agreed criteria of income allocation between wages and accumulation, the former (up to 1979) tended to expand at the expense of the latter. Since 1979 there has been political

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[123] See Economic Commission for Europe, "Incomes in Postwar Europe A Study of Policies, Growth and Distribution", (*Economic Survey of Europe in 1965*, Part II), Geneva 1967, chapter 12, pp. 1-27 and also *Economic Survey of Europe in 1981*, p.96

TABLE 2.1.7

**Yugoslavia: Money supply and consolidated budgets**

| | 1979 | 1980 | 1981 | 1982 | 1983[a] |
|---|---|---|---|---|---|
| | | | *Billion current dinars* | | |
| Money supply (MI) | 375.2 | 461.7 | 584.3 | 739.8 | 852.8 |
| Bank credits | 1 217.7 | 1 568.3 | 1 927.8 | 2 369.2 | 2 898.9 |
| Foreign exchange transactions | −104.9 | −252.5 | −366.1 | −587.9 | −1 089.1 |
| Non-monetary deposits[a] [b] | −737.2 | −853.8 | −977.4 | −1 041.5 | −957.0 |
| Budget expenditures | 499.2 | 626.7 | 836.4 | 1 068.0 | 1 003.0[c] |
| | | | *Annual percentage change* | | |
| Money supply (MI) | 19.0 | 23.1 | 26.6 | 26.5 | 15.3 |
| Bank credits[a] | 26.9 | 28.8 | 22.9 | 22.9 | 22.4 |
| Foreign exchange transactions | −437.1 | −20.4 | −45.0 | −60.6 | −85.3 |
| Non-monetary deposits[a] [b] | −19.0 | −15.8 | −14.5 | −6.6 | . . |
| Budget expenditures | 25.3 | 25.5 | 33.5 | 27.7 | 30.0 |
| Social product at current prices | 29.2 | 33.3 | 42.2 | 32.6 | 38.5 |

*Source*: As for table 2.1.4

[a] January-October, 1983

[b] Minus sign indicates a rise in deposits and decrease in money supply.

[c] January-September, 1983

pressure to reduce the average share of wages in the income of enterprises but, again in the absence of clear criteria of allocation, the pressure for wage increases (partly in response to increases in the cost of living) led instead to larger increases in prices (wage-price spiral). At the same time, wages in different enterprises and different branches proved to be more closely linked than generally assumed: given a wage rise in one enterprise or branch, the others tend to follow suit (wage-wage spiral), even if it means breaking the income allocation criteria. This maintenance of wage differentials between enterprises and branches is likely to have an inflationary bias of its own when the differences in productivity growth are larger than those in wages (which is usually the case). Altogether, though this issue has long been a source of conflicting interpretations, from table 2.1.6 and chart 2.1.3 it is evident that throughout the period under consideration nominal wages, industrial prices and the GNP price deflator have followed more or less the same trend. Fairly large increases in wages per unit of output, ranging from 16 to 31 per cent in individual years, point to the same conclusion. Thus, with a more effective incomes policy the overall inflation rate might have been substantially lower.

However, unit wage costs are not the only factor responsible for inflation, particularly in 1983, when the differences between the inflation rate and nominal wages and wage cost per unit of output were substantial (some 40 per cent as compared with 24 and 22 per cent respectively). This calls for more attention to be paid to pricing policy.

In principle, prices in the Yugoslav economic system are set by market forces but there are a number of special price-setting arrangements. First, for some basic goods such as bread, oil, sugar, etc., prices are fixed at local level and in some cases at the state or autonomous province level. Second, for other goods, mostly producer goods, prices are set by direct agreements between suppliers and buyers within special institutions called "self-management price interest communities". Third, for basic agricultural goods there are guaranteed minimum prices, which aim to protect farm incomes and stimulate agricultural production. Finally, temporary price freezes may be imposed by decision of the federal government. By the end of the 1970s and beginning of the 1980s, the first two types of price setting had expanded at the expense of free market pricing while guaranteed agricultural prices had generally been kept below market prices. In practice these arrangements have proved to be controversial and in most cases inefficient. In fact, direct price agreements have been mainly dictated by the dominant partner or managed by both parties at the expense of those who did not participate in the agreement. At the same time direct price control has been implemented without clear criteria so that many controlled prices have risen faster than uncontrolled ones. Thus the price-setting arrangements have themselves been a source of inflation (price-price spiral). Many Yugoslav economists and official documents, including the long-term stabilization programme, claim that the main deficiencies arise from the virtual suppression of genuine market forces: the energies of most producers are more oriented to negotiating with the different price bodies than to the reduction of costs and the efficient use of factor inputs.

There is now increasing and widespread agreement in Yugoslavia that changes in the economic system are a necessary condition for a better and more stable economic performance.[124] On the question of incomes these changes should include the notion of a social compact which would provide general criteria for the allocation of enterprise income to wages and net capital formation, as well as for the distribution of wages within individual enterprises. The authorities are also aiming to strengthen market forces in price formation, a policy that is consistent with the basic principles of the Yugoslav economic system.

However, very strong inflationary pressure at the end of 1983 forced the federal government, once again, to introduce a price freeze for six months. Official statements make it clear that this can be only a temporary measure, not only because it deviates from the government's long-term objectives but also because the last price freeze was lifted only in July 1983. The social compact on incomes and wages is at present only at the stage of a draft for public discussion: shortcomings in both

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[124] See, for example, "Sistemske promene – uslov napretka" (Systemic Changes – A Precondition of the Progress), in *Borba*, 3 November, 1983, p.l. The same source later reported that at the annual session of the Association of Yugoslav Economists the main message was that "deeper changes in the economic system are necessary – at least to the extent required by the Programme of Economic Stabilization – if the present economic situation is to be overcome": *Borba*, 23 November 1983, p.2. Similar conclusions may be also found in P. Knight, "Economic Reforms in Socialist Countries, The Experience of China, Hungary, Romania and Yugoslavia", *World Bank Staff Working Papers*, No. 579, The World Bank, Washington D.C., 1983, pp.105-106 and OECD, *Yugoslavia*, Economic Surveys, Paris, 1983, pp.48-50.

TABLE 2.1.8

**Yugoslavia: Balance of payments and foreign debt**
*(A = Total, B = Convertible Currency Transactions)*

| | 1979 | | 1980 | | 1981 | | 1982 | | 1983 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B[a] | A | B[a] | A | B[a] | A | B | A | B |
| | *Annual percentage change* | | | | | | | | | |
| Volume growth | | | | | | | | | | |
| Exports | −0.4 | .. | 10.7 | .. | 12.2 | .. | −6.4 | .. | 1.4 | .. |
| Imports | 8.0 | .. | −10.1 | .. | −5.7 | .. | −10.0 | .. | −1.9 | .. |
| Terms of trade | −3.7 | .. | −0.3 | .. | −1.7 | .. | 5.1 | .. | 0.3 | .. |
| | *Million current US dollars* | | | | | | | | | |
| Trade balance | −7 225 | −6 600 | −6 086 | −5 700 | −4 828 | −4 900 | −2 826 | −3 500 | −2 200 | −1 800 |
| Exports | 6 794 | 4 800 | 8 978 | 5 600 | 10 929 | 5 700 | 9 923 | 5 500 | 10 000 | 6 350 |
| Imports | 14 019 | 11 400 | 15 064 | 11 300 | 15 757 | 10 600 | 12 749 | 9 000 | 12 200 | 8 150 |
| Balance on services and transfers | 3 564 | 3 300 | 3 795 | 3 500 | 4 078 | 3 100 | 2 268 | 2 003 | 2 260 | 1 895 |
| Remittances | 1 710 | .. | 1 539 | .. | 2 042 | .. | 1 121 | 1 085 | b | b |
| Tourism | 1 028 | .. | 1 505 | .. | 1 853 | .. | 1 264 | 1 224 | 2 485[c] | 2 425[c] |
| Transportation | 731 | .. | 845 | .. | 1 044 | .. | 870 | 760 | 888 | 785 |
| Interest | −633 | .. | −1 084 | .. | −1 710 | .. | −1 710 | −1 640 | −1 670 | −1 750 |
| Other | 728 | .. | 990 | .. | 849 | .. | 723 | 604 | 527 | 275 |
| Balance on current account | −3 661 | −3 300 | −2 291 | −2 200 | −750 | −1 800 | −558 | −1 554 | 60 | 95 |
| Capital account | 2 384 | 1 900 | 2 890 | 2 000 | 870 | 1 400 | 358 | 502 | 270 | 235 |
| Net reserves movement | 1 277 | .. | −559 | .. | −120 | .. | 200 | 1 012 | 330 | 330 |
| Gross foreign debt | 14 952 | .. | 18 395 | | 19 458 | | 20 016 | 18 488 | 21 000* | 19 400* |
| Net foreign debt | 13 732 | | 16 869 | | 17 383 | | 18 298 | 16 670 | 19 150* | 18 600* |
| | *Percentage* | | | | | | | | | |
| Gross debt servicing ratio[d] | 21 | 24 | 20 | 23 | 21 | 25 | 24 | 31 | 21 | 27* |
| Convertible debt service ratio[e] | 19.3 | 23 | 18.3 | 21.1 | 19.3 | 23 | 22 | 28.3 | 21 | 25 |

*Source*: As for table 2.1.4.
[a] Rounded figures.
[b] Included in the item tourism.
[c] Including remittances
[d] Ratio of total debt service to total foreign exchange receipts.
[e] Ratio of total convertible debt service to all convertible currency receipts

price and income formation and wage distribution will therefore persist for a while.

Finally it should be pointed out that both income and price policies are themselves constrained by the slowdown in output growth and by the imbalances that built up in the 1970s. When distortions to price and wage differentials have persisted for a long time it is virtually impossible to correct them *via* falls in prices and wages for any sector: re-alignment in a context of general wage and price increases is more feasible, but the slowdown in output growth has severely limited the room for manoeuvre.

### (e) *Balance of payments and foreign debt*

As was mentioned at the beginning of this section, the decisive factors underlying Yugoslav economic policy since 1980 have been the balance of payments deficit and the level of foreign debt. The aim has been to narrow the foreign trade deficit, to achieve a better balance of trade in convertible currency and eventually a current account surplus which will make it possible to start repayment of the outstanding foreign debt. The figures in table 2.1.8 show that considerable progress has been made towards these objectives.[125]

Throughout the 1960s and 1970s there had been an increasing and significant surplus on services and transfers. The deterioration in the current account was due to an excessive growth of imports, both of consumer and producer goods. The adjustment process has therefore been directed mainly at the trade balance. After a sharp divergence between the volume growth of exports and imports in 1979 (a 0.4 per cent fall and an 8 per cent increase respectively), the principal objective was to expand exports and contract imports, and this has been pursued since 1980. In 1983 the volume of exports was some 18 per cent higher than in 1979, while the volume of imports was some 25 per cent lower. However, due to deteriorating terms of trade in 1980 and 1981, the value of imports continued to grow in both years, although at growth rates substantially below those of exports. With continuing import cuts and improving terms of trade, and in spite of a drop in the volume of exports in 1982 and little growth in 1983, the trade deficit was substantially reduced in 1982 and again in 1983. The trade deficit of $2.2 billion in 1983 represents a reduction of more than two-thirds in the record deficit of 1979.

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[125] This has been recognized in international financial circles. See *Financial Times*, 20 January 1984, p.20.

The total surplus on services and transfers expanded in both 1980 and 1981. The combined effects of a falling trade deficit and an increasing surplus on services and transfers brought about a sharp fall in the current account deficit, from some $3.7 billion in 1979 to only $750 million in 1981. If these trends had continued at the same pace, as had originally been envisaged by economic policy makers, there would have been a large current account surplus in 1983. However, the persistence of high interest rates in international capital markets in 1982 and 1983 and a fall in total net income (by some $1.7 billion) from remittances, tourism and transportation in 1982 slowed the rate of improvement. Nevertheless the current account did move into surplus in 1983. The slower pace of adjustment together with the maintenance of high interest rates abroad explains why Yugoslavia continued to promote its exports, to devalue its currency, and also to seek fresh foreign credits, mostly commercial, and international agreement to postpone repayment of part of its foreign debt. The result of this manifold effort was that gross foreign debt increased by about only 5 per cent in 1983, while both gross and net debt servicing ratios, after three years of successive growth, declined slightly.

Besides restoring the overall external balance during the 1979–1983 period, another objective has been a substantial improvement in the *distribution of the trade and payments balances* as between non-convertible and convertible currency transactions. Judging by the figures in table 2.1.8, progress in this direction has been achieved. However, the growth rates and absolute figures in this table may be misleading on this point. If the data are expressed in percentage shares – as in table 2.1.9 – three important conclusions may be drawn. First, at the beginning of this period, as for many years before, there was a substantial imbalance in Yugoslavia's *convertible currency trade*: the share of the latter in total exports was markedly lower than its share of total imports. Second, the balance of trade in convertible currency in *relative* terms (the ratio of exports to imports) deteriorated in 1980, as the gap between the shares of convertible currency transactions in total exports and imports widened still further. This relation between the two shares remained virtually unchanged in both 1981 and 1982. It was only the sharp increase of convertible currency exports in 1983 which brought about a substantial change and reduced the difference between the two shares to some 3 percentage points. Moreover, as shown in table 2.1.8, the current account balance in convertible currency was, for the first time, better than the overall balance.

### (f) *The stabilization programme and short-term prospects*

The preparation of the long-term stabilization programme was announced in 1981 and so far has passed through several stages. At the beginning of 1982 the Commission for Problems of Economic Stabilization prepared the basic elements of the programme. During that year and in the spring of 1983 the separate sub-commissions prepared and the Commission accepted 15 documents which highlighted long-term developments, assessed present problems and proposed new policies in all the main areas of socio-economic development. By the end of June 1983, the Commission issued the concluding part of its programme, which was approved by the federal parliament and by all the other national political authorities. In this way an overall framework for long-term stabilization was created.

As the concluding part of the stabilization programme does not deal with all the findings of the sub-commission and also does not include a set of operational measures, the stabilization process itself has been divided into two phases. In the first, which is expected to last several years, changes are planned in the economic system and in development policy, as well as in the composition of national output. These changes, are expected to lead to a more buoyant and better balanced pattern of economic development. By the end of the first phase output growth should be around 4–5 per cent per year in industry, 3 per cent in agriculture, and 3–4 per cent for the social product.

TABLE 2.1.9

**Yugoslavia's trade and payments: transactions in convertible and non-convertible currencies**
*(Percentage shares)*

| | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|
| Convertible currency transactions | | | | | |
| Exports | 70.7 | 62.4 | 52.2 | 55.4 | 63.5 |
| Imports | 81.3 | 75.0 | 67.3 | 70.6 | 66.8 |
| Trade deficit | 91.3 | 93.7 | 101.5 | 123.8 | 81.8 |
| Surplus on services and transfers | 92.6 | 92.2 | 76.0 | 88.3 | 83.8 |
| Current account balance | −90.1 | −96.0 | −240 | −278 | 158 |
| Non-convertible currency transactions[a] | | | | | |
| Exports | 29.3 | 37.6 | 48.8 | 44.6 | 36.5 |
| Imports | 18.7 | 25.0 | 22.7 | 29.4 | 33.2 |
| Trade deficit | 8.7 | 6.3 | −1.5 | −23.8 | 18.2 |
| Surplus on services and transfers | 7.4 | 7.8 | 24.0 | 11.7 | 16.2 |
| Current account balance | −9.9 | −4.0 | 140 | 178 | −58 |

*Source*. As for table 2.1.4

[a] Calculated as residual between the total and the convertible currency transactions

Labour productivity should be rising at 3 per cent a year. Meanwhile exports should expand strongly, especially those in convertible currency, so that by the end of the first phase the share of exports of goods and services in the social product should reach some 30 per cent. Simultaneously the more fundamental changes of the second phase are to be prepared, so that the whole programme will embrace a period of some 20 years. The first and the second phases of the stabilization programme should be incorporated in the Social Plan for the period 1986–1990 and in the long-term Social Plan for the period up to 2000. Both Plans are to be approved in 1985.

Against such a background, economic policy for 1984 is aimed at a recovery of national output and higher overall efficiency, and at an improvement in the international trade position. At the same time inflation must be checked and further declines in labour productivity and real wages avoided. Within this framework expectations are for an increase in social product of some 2 per cent, based on 3 per cent growth in industry and 2 per cent growth in agriculture. These growth rates should produce a rise of 2 per cent in employment. Combined with a 10 per cent fall of investment and a 6 per cent cut in public (collective) consumption, such a growth rate should allow exports of goods and services to expand by 16 per cent (20 per cent in convertible currency) with an average increase in imports of 7 per cent.[126]

On the assumption of stable or slightly improving international conditions and at least average weather conditions (on which several sectors depend), these objectives are not inaccessible. However, given that these assumptions prove correct – and even more so if they do not – the achievement of these objectives will still depend on the necessary macroeconomic decisions being made at the proper time, on a better balance of production and the elimination of evident deficiencies in the economic system.

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[126] Figures and other information in this and the previous paragraph are based on "Resolution on Socio-Economic Policy of the Socialist Federal Republic of Yugoslavia in 1984", *Službeni list* (Yugoslav Official Register), vol. XXXIX, no. 70, 30 December 1983, pp.2035-2057.

## 2.2 DETERMINANTS OF THE EXPORT PERFORMANCE OF SOUTH EUROPEAN COUNTRIES

### Introduction

In a previous study[127] the Secretariat examined the export performance of five south European countries (Greece, Portugal, Spain, Turkey and Yugoslavia) during the 1970s.[128] The scope of that study was limited to providing a statistical measure of south European competitive strength in manufactured exports vis-à-vis a number of countries and country groups exporting similar products. By means of the constant market share (CMS) method, each country's export changes were partitioned into demand and "competitiveness" components.[129] The latter, which is a residual, reflects changes in market share for individual products in individual markets: it stands for that proportion of export growth due to factors other than changes in the level and pattern of demand.

Despite methodological and data limitations, the study suggested some interesting conclusions. The results indicated, *inter alia*, that "competitiveness" played a significant part in south European export performance in the 1970s; but considerable differences were found among the exporting countries and between different sub-periods of the decade. Moreover, estimates for individual product groups revealed that some south European countries had made significant "competitive" gains in products considered to be labour intensive, while others gained shares in the markets for more skill- and/or capital-intensive products.

It should be emphasized that the CMS method has no stochastic basis and cannot be used to make probability statements about future export performance. To some extent this limitation can be overcome by applying regression analysis to the "competitiveness" residuals and determining the extent to which these residuals can be "explained" by cost-price and other factors. This is attempted here. In the secretariat's previous study of this topic, a preliminary assessment of the role of export unit values was made. However, the results were generally poor, indicating that further analytical work was required. The present paper continues in this direction and seeks to identify the main determinants of south European "competitiveness" in the OECD market.[130] The first part concentrates on the determinants of export "competitiveness" in total manufactures in the 1970s; in the second part, an attempt is made to explain, in terms of structural factors, the variation in "competitiveness" across products.

The analysis of *changes over time in export "competitiveness"* is carried out by means of export performance equations where the changes in market shares ascribed to "competitiveness" are taken to be dependent on factors commonly supposed to affect export supply. These factors include relative export prices, relative unit labour costs and the rate of expansion of productive capacity.[131]

The second part of the paper is devoted to identifying *structural determinants* of the countries' competitive strength. This is done in the framework of theories aiming to explain the structure of international trade, in particular the "factor proportion" models, which stress relative factor endowments, and the "neo-technological" theories, in which innovation and technology are emphasized.[132] The approach followed here is to try to establish a relationship between the competitive strength of individual countries in different product groups and a number of variables describing the characteristics of those products (factor intensities, level of technological development, presence of scale economies, etc).[133]

Sub-section (i) recalls the secretariat's previous estimates of the "competitiveness" component in southern Europe's market share developments in the 1970s. In sub-section (ii) some of the factors that are likely to explain export "competitiveness" changes are discussed and an attempt is made to estimate the responsiveness of market shares to changes in these factors. Structural determinants of south European competitive strength are investigated in sub-section (iii). The main conclusions are summarized in sub-section (iv).

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[127] Economic Commission for Europe, "The relative performance of south European exports of manufactures to OECD countries in the 1970s: an analysis of demand factors and competitiveness", *Economic Bulletin for Europe*, vol.34, No.4, pp.503-561

[128] Italy was also considered because, despite its high degree of industrialization, its export structure remains similar to those of other south European countries.

[129] For a description and discussion of the method, see *Economic Bulletin for Europe*, vol.34, No.4, pp.503-506

[130] The term "competitiveness" is used here in the same sense as in the previous study, i.e. it measures the export change due to factors other than changes in the level and pattern of demand.

[131] See e.g., M.C. Aho and R.D. Carney, "United States Export Performance in the Post-Devaluation Period: Continuation of a Secular Decline?", in *Hearings Before the Sub-Committee on International Finances, Part 2 – Trends in Export Markets and Competitiveness*, US Government Printing Office, 1978; J.B. Donges, "Shaping Spain's Export Industry", *World Development*, vol. 1, No. 9, September 1973; M. Goldstein and M.S. Khan, "The Supply and Demand for Exports: A Simultaneous Approach", *The Review of Economics and Statistics*, vol. LX, No. 2, May 1978; B. Goodman and F. Ceyhum, "US Export Performance in Manufacturing Industries: An Empirical Investigation", *Weltwirtschaftliches Archiv*, Band 112, 1976; B. Gould, J. Mills and S. Stewart, "Measuring International Competitiveness", in *Monetarism or Prosperity*, MacMillan, London, 1981; E.M. Kreinin, "Price Elasticities in International Trade", *The Review of Economics and Statistics*, vol. XLIX, No. 4, November 1967; H. Junz and R. Rhomberg, "Prices and Export Performance of Industrial Countries, 1953–1963", *IMF Staff Papers*, vol. XII, No. 1, March 1965 and "Price Competitiveness in Export Trade among Industrial Countries", *American Economic Review*, vol. LXIII, No. 2, May 1973, and E.E. Leamer and R.M. Stern, *Quantitative International Economics*, Allyn and Bacon, Inc., Boston, 1970.

[132] See e.g., G.C. Hufbauer, "The Impact of National Characteristics and Technology on the Commodity Composition of Trade in Manufactured Goods", in R. Vernon (ed.), *The Technology Factor in International Trade*, NBER, Colombia University Press, New York and London, 1970; S. Hirsch, "Hypotheses regarding Trade between Developing and Industrial Countries", in H. Giersch (ed.), *The International Division of Labour, Problems and Perspectives*, Institut für Weltwirtschaft, Kiel, 1974; G.K. Helleiner, "Industry Characteristics and the Competitiveness of Manufactures from Less Developed Countries", *Weltwirtschaftliches Archiv*, Band 112, 1976; R.E. Baldwin, "Determinants of the Commodity Structure of US Trade", *The American Economic Review*, Vol. LXI, No. 1, March 1971, "Determinants of Trade and Foreign Investment: Further Evidence", *The Review of Economics and Statistics*, vol. LXI, No. 1, February 1979; K.E. Maskus, "Evidence of Shifts in the Determinants of the Structure of US Manufacturing Foreign Trade, 1958–76", *The Review of Economics and Statistics*, vol. LXV, No. 3, August 1983; W.B. Walker, *Industrial Innovation and International Trading Performance*, JAI Press Inc., Greenwich, Connecticut, 1979; H.B. Lary, *Imports of Manufactures from Less Developed Countries*, NBER, New York, 1968 and D.B. Keesing, "Labour Skills and the Structure of International Trade in Manufactures", in P.B. Kenen and R. Lawrence (eds.), *The Open Economy: Essays on International Trade and Finance*, New York, 1968

[133] A similar approach to less developed countries was adopted by Helleiner, *loc cit*

### (i) The "competitiveness" component of market share developments

Before discussing the factors that are likely to influence "competitiveness", it will be useful to summarize the results of the secretariat's previous study of the export performance of southern Europe.[134]

Table 2.2.1 shows the estimated contribution of demand and of "competitiveness" to changes in the shares of south European countries in OECD imports of manufactures between 1970 and 1980. For most countries, the "competitiveness" component of market share growth was stronger in the early 1970s than in the years following the economic disturbances in 1973–1974. Between 1970 and 1974, the growth in the market shares of Greece, Portugal, Spain and Turkey was largely due to "competitiveness", while Yugoslavia and Italy suffered "competitiveness" losses in 1973–1974. During the second half of the decade, the "competitiveness" component of changes in market share became negative for Turkey and Yugoslavia and less important than before in the other countries. Nevertheless Spain and Portugal still registered significant gains, the former in 1977 and 1978 and the latter in 1978–1980.

The role of "competitiveness" in southern Europe's export performance in individual product groups is shown in table 2.2.2 which presents the ratio between the actual growth of each country's exports of a given product and the export increase required to maintain a constant share in the market for that product. The figures are averages for 1970–1980 and refer to the OECD market. As the results for the OECD as a whole were obtained by adding the results for single importing countries, the changes in market share shown in table 2.2.2 exclude the effects of differences in the rate of growth of different products and markets. Some countries (Portugal, Greece, Turkey and Italy) made considerable gains in the markets for textiles, clothing, footwear, furniture; others (Spain, Yugoslavia) clearly lost market shares in these products. On the other hand, Spain, and also Portugal, made significant gains in more "modern" products such as road vehicles, chemicals and machinery.

Differential treatment of exporters in the field of tariff-cutting and in the easing of other trade barriers may partly explain the relatively good performance of some countries, especially in the early 1970s (Greece, Portugal and Spain probably benefited from trade agreements with the European Economic Community); and the deterioration of performance in the late 1970s may have been partly due to trade restrictions imposed by the western industrialized countries. In particular, import restrictions on labour-intensive products are likely to have affected those countries where such products account for a

TABLE 2.2.1

**Percentage changes in market shares (MS):**
**Demand and "competitiveness" components[a]**
**1971-1980**

| | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 |
|---|---|---|---|---|---|---|---|---|---|---|
| Greece | | | | | | | | | | |
| Change in MS | −6.3 | 26.7 | 21.1 | 8.7 | 16.0 | 3.4 | −6.7 | 3.6 | 10.3 | −3.1 |
| *of which:* | | | | | | | | | | |
| Demand | 0.1 | 2.0 | −4.2 | −2.7 | 4.6 | 0.6 | −1.9 | −1.4 | 3.8 | 0.8 |
| "Competitiveness" | −6.4 | 24.7 | 25.3 | 11.4 | 11.4 | 2.8 | −4.8 | 5.0 | 6.5 | −3.9 |
| Portugal | | | | | | | | | | |
| Change in MS | 14.3 | 9.4 | 8.6 | 2.6 | −5.1 | −18.9 | −3.3 | 3.4 | 16.7 | 5.7 |
| *of which:* | | | | | | | | | | |
| Demand | 2.5 | −0.8 | −0.7 | −1.4 | 0.5 | −1.3 | 3.6 | −1.9 | 3.7 | −1.7 |
| "Competitiveness" | 11.8 | 10.2 | 9.3 | 4.0 | −5.6 | −17.6 | −6.9 | 5.3 | 13.0 | 7.4 |
| Spain | | | | | | | | | | |
| Change in MS | 32.2 | 17.9 | 2.2 | 5.3 | 10.1 | 1.8 | 9.9 | 6.7 | 3.8 | 4.4 |
| *of which.* | | | | | | | | | | |
| Demand | 0.5 | 0.7 | −0.8 | −1.7 | 2.2 | 3.1 | −1.8 | −0.2 | 1.7 | 0.8 |
| "Competitiveness" | 31.7 | 17.2 | 3.0 | 7.0 | 7.9 | −1.3 | 11.7 | 6.9 | 2.1 | 3.6 |
| Turkey | | | | | | | | | | |
| Change in MS | 9.1 | 50.0 | 27.8 | 21.7 | −14.3 | 37.5 | −15.2 | −8.3 | 2.6 | −10.1 |
| *of which:* | | | | | | | | | | |
| Demand | −2.1 | 3.8 | 1.2 | −7.1 | 3.4 | −0.5 | −1.0 | −1.0 | 5.0 | −2.4 |
| "Competitiveness" | 11.2 | 46.2 | 26.6 | 28.8 | −17.7 | 38.0 | −14.2 | −7.3 | −2.4 | −7.7 |
| Yugoslavia | | | | | | | | | | |
| Change in MS | 2.5 | 26.8 | 1.9 | −9.4 | −16.7 | 10.0 | −4.6 | −7.1 | −2.6 | |
| *of which:* | | | | | | | | | | |
| Demand | −0.8 | 1.7 | 3.2 | −1.6 | 0.6 | 0.4 | 2.4 | −1.5 | 0.7 | 1.9 |
| "Competitiveness" | 3.3 | 25.1 | −1.3 | −7.8 | −17.3 | 9.6 | −7.0 | −5.6 | −3.3 | −1.9 |
| Italy | | | | | | | | | | |
| Change in MS | 4.7 | 3.1 | −8.3 | −4.7 | 13.2 | −3.9 | 4.7 | 4.5 | 2.5 | −3.9 |
| *of which:* | | | | | | | | | | |
| Demand | 4.0 | 1.0 | −1.2 | −4.4 | 5.2 | 0.7 | −0.1 | −0.6 | 0.5 | −0.1 |
| "Competitiveness" | 0.7 | 2.1 | −7.1 | −0.3 | 8.0 | −4.6 | 4.8 | 5.1 | 2.0 | −3.8 |

*Source* Based on *Economic Bulletin for Europe*, vol 34, No.4

a Market shares defined in relation to OECD imports of manufactures

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[134] See *Economic Bulletin for Europe*, vol.34, No.4.

TABLE 2.2.2

**Ratio between actual export change and that required to maintain a constant market share, 1970–1980**

| | Greece | Portugal | Spain | Turkey | Yugoslavia | Italy |
|---|---|---|---|---|---|---|
| Organic chemicals | 0.59 | 1.78 | 1.46 | 0.26 | 0.70 | 0.76 |
| Inorganic chemicals | 1.21 | 1.43 | 1.12 | 0.79 | 0.56 | 0.94 |
| Other chemicals | 0.71 | 0.75 | 1.65 | 0.64 | 1.25 | 1.23 |
| Leather and leather manufactures | 1.13 | 2.06 | 1.91 | −0.86 | 1.29 | 1.22 |
| Textiles | 1.60 | 1.13 | 1.23 | 1.46 | 0.73 | 1.17 |
| Non-metallic minerals | 1.13 | 0.88 | 1.49 | 0.83 | 0.79 | 1.09 |
| Iron and steel | 0.99 | 2.05 | 1.66 | 2.58 | 0.44 | 1.25 |
| Road vehicles | 1.17 | 3.45 | 2.64 | 1.55 | 1.39 | 0.94 |
| Other transport equipment | 0.67 | 1.64 | 0.74 | 1.34 | 0.45 | 1.01 |
| Machinery | 1.14 | 1.03 | 1.44 | 1.35 | 1.11 | 1.01 |
| Furniture | 0.97 | 2.65 | 0.80 | 3.35 | 0.82 | 1.41 |
| Clothing | 1.70 | 1.30 | 0.75 | 0.86 | 0.73 | 0.95 |
| Footwear | 0.91 | 2.07 | 0.61 | 0.44 | 1.08 | 0.94 |
| Other manufactures | 0.82 | 1.20 | 1.26 | 0.56 | 0.76 | 1.01 |

*Source*: As for table 2.2.1

large share of manufactured exports.[135] But changes over time in the "competitiveness" of south European countries may also reflect changes in relative prices and in the supply conditions influencing export behaviour.[136] On the other hand, differences between products in export performance may reflect the influence of structural factors affecting production conditions. In the following sections, an attempt is made to identify some of the factors underlying these aspects of south European export performance.

### (ii) Factors underlying changes over time in "competitiveness"

The factors affecting the changes in market share ascribed to "competitiveness" and which are examined here are those suggested by some of the most widely used export functions. This section first discusses the relationships to be employed and then turns to a consideration of the indicators to be used in the empirical analysis; finally, the results of the time series analysis are presented.

#### (a) *The determinants of export performance*

Market share developments are often considered to depend on changes in each exporter's prices relative to its competitors. However, export performance is also likely to be influenced by factors other than price. Most exporters have limited market power and this prevents cost increases being fully passed on to prices. In such circumstances a rise in production costs will imply a squeeze on profits, which may lead to a reallocation of productive resources between the export and the domestic sectors. In this case, export profitability may be proxied by domestic cost variables.

In addition, non-price (cost) factors may also affect the supply of exports, but many of these are difficult to measure. Examples of such factors are the quality and range of exported goods, delivery conditions, marketing skills, export promotion and financing arrangements. In the secretariat's previous study some comments were made on the possible impact of these factors on national competitive strength, but no attempt was made to quantify that impact. One factor, which is likely to influence export supply and is measurable, is the rate of expansion of productive capacity in industry. In most south European countries, export-oriented development strategies have been followed since the late 1950s and early 1960s, when a period of import substitution came to an end.[137] Therefore, it is reasonable to suppose that export developments have been influenced by the rate of growth of fixed investment in manufacturing industry, particularly when new export sectors were developed.[138]

On the basis of these considerations, an attempt was made to estimate a relationship where the changes in market share determined by "competitiveness" were hypothesized to depend on relative export prices, relative unit costs and the growth of investment.

This equation was fitted to the pooled time series data for six southern countries. The results of this exercise were not very good: the fit of the linear regression equation was low and the regression coefficients were not significant except for that on the unit cost variable. There were too few observations to fit the same equation to the data for individual countries, and so the relative price variable was dropped from the equations in table 2.2.3. The practical justification for this choice is that empirical work carried out elsewhere has often shown the effect of relative price changes to be statistically non-significant or, at best, very small in the short run.[139] Consequently changes in each country's market share are assumed to depend on profitability (proxied by costs) and the rate of expansion of productive capacity.

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[135] Trade policy measures adopted by the importing country primarily affect the growth rate of its import demand; and the impact of this demand change on trading partners' exports is one of the demand effects that, through the CMS method, were subtracted from actual export changes. Thus, the "competitiveness" component will only reflect the effects of trade policies which discriminate between exporters.

[136] See footnote 131.

[137] In Turkey, outward-looking development strategies only started being pursued in the 1970s.

[138] Production capacity, rather than investment, might be the more appropriate concept. However, in countries where the export sector is relatively new, the rate of investment may be a good proxy for the growth in capacity.

[139] See J. Tinbergen, "Some Measurements of Elasticities of Substitution", *The Review of Economics and Statistics*, Vol. XXVIII, No. 3, August 1946; G.H. Orcutt, "Measurement of Price Elasticities in International Trade", *The Review of Economics and Statistics*, vol. XXXII, No. 2, May 1950; Junz and Rhomberg, *loc.cit.*, I.B. Kravis and R.E. Lipsey, *Price Competitiveness in World Trade*, Columbia University Press, 1971; and "Prices and Market Shares in the International Machinery Trade", *The Review of Economics and Statistics*, vol. LXIV, No. 1, February 1982; Aho and Carney, *loc cit.*; and D. Goldsbrough, "International Trade of Multinational Corporations and its Responsiveness to Changes in Aggregate Demand and Relative Prices", *IMF Staff Papers*, vol. 28, No. 3, September 1981.

### (b) *Statistical indicators of explanatory factors*

Indices of *unit labour costs* were used as a proxy for changes in the profitability of the export sector. The use of labour costs instead of total production costs is mainly due to statistical difficulties associated with the measurement of other cost components. In any case, labour costs represent about 80 per cent of current costs in most west European countries; and there seems to be evidence that, because of the relatively high homogeneity of raw materials, non-labour costs vary less between countries than labour costs.[140]

Indices of unit labour costs in each south European country were computed as the ratio between an index of average compensation of employees and an index of real productivity. Each country's index was then divided by a weighted average of the corresponding indices for 17 western countries,[141] after converting the national indicators into US dollars. The indices of relative unit labour costs so calculated thus take account of changes in exchange rates. In fact, an important point in the analysis of relative prices and costs is the distinction between the changes deriving from domestic developments and those originating in exchange rate movements. Another relevant distinction is between the movements in unit labour costs brought about by changes in average earnings and those resulting from productivity.

The impact of exchange rates and productivity on unit labour costs may be inferred from chart 2.2.1, which shows indices of average earnings, unit labour costs in national currencies and unit labour costs in US dollars. The role of exchange rates was insignificant for Greece, Portugal and Italy until the mid-1970s, but since 1976 it has accounted for about half the difference between the growth in average earnings and in the dollar value of their unit labour costs. Turkey and Yugoslavia devalued on a number of occasions during the decade and particularly in 1980, when restrictive economic policies had to be adopted to deal with balance of payments difficulties. In the case of Spain, exchange rate adjustments were very limited and so the difference between the development of earnings and of unit labour costs in dollars is almost fully accounted for by increases in productivity. While Spain's unit labour costs in national currency developed in line with those of other south European countries, in dollar terms its relative position deteriorated markedly.

Real investment, namely an index of *gross fixed capital formation in manufacturing,* was used as a proxy for the renewal of the industrial base.

The development of these various price and non-price supply factors is shown in chart 2.2.2. The same chart also shows indices of the market shares that would have occurred had exports of manufactures grown only in line with annual change in "competitiveness". The "competitiveness" indices should, in principle, be symmetric to the price and cost indices.[142] This, however, is not evident in chart 2.2.2: the increase in "competitiveness" was sometimes accompanied by deteriorating relative unit export values and relative unit labour costs (particularly in the case of Spain). On the other hand, "competitiveness" changes apparently followed those in fixed capital formation, although there appear to be varying lags between the two variables (in Spain and Yugoslavia, the relationship is less clear).

### (c) *The estimated relationships*

In order to investigate the responsiveness of southern Europe's market shares to changes in costs and investment, changes in market share were hypothesized to depend on relative unit labour costs and on real fixed investment. A linear form was used in this function and the variables were expressed as percentage changes from the previous year.[143] The best results obtained for each country in this time series regression analysis are shown in table 2.2.3.

There appears to be a significant relationship between relative costs and export "competitiveness" in most south European countries: the coefficient of the cost variable is negative in all cases except Spain, and it is statistically significant for Portugal, Turkey, Yugoslavia and Italy. However, except for Turkey, these coefficients are lower than unity, indicating that a 1 per cent increase in relative costs will be reflected in a smaller change in market share.[144] On the other hand, the idea that export developments may be positively influenced by the growth of productive capacity is supported by the results, although the coefficients are not statistically significant for Greece and Turkey.

The conclusion suggested by these equations is that supply factors are relevant to the export performance of south European countries, but there was insufficient evidence to draw any firm conclusions as to the role of relative prices (even though the results for southern Europe as a whole suggested no significant relative price effect). It is clear from a number of empirical studies that there are many non-price factors which have an important influence on export performance, but the conclusion that relative prices are "irrelevant" should be treated with caution. Such a result may be strongly influenced by measurement problems and by the difficulties of incorporating prices into an appropriate model.[145] Some of these difficulties arise from structural changes in the functioning of international markets. One such change is the growing share of intra-industry trade in manufactures, and in particular of intra-firm trade.[146] The increasing "internationalization" of many industries, especially at the intermediate stages of production, makes it likely that the foreign demand for a country's exports will become increasingly insensitive to relative price changes, at least in the short to medium term. This may well be the case for some of the south European countries, where foreign firms have been increasingly operating in the export sector. On the other hand, it has also been argued that product differentiation, trade policies, and state intervention, tend to make international markets much less homogeneous and more rigid than is generally assumed. An additional argument that may apply to "low-wage" countries is that their "competitiveness" is dependent on the absolute level of their costs and prices, rather than on marginal changes in them (thus, while the relative price

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[140] OECD, *Economic Outlook*, Occasional Studies, Paris July 1978, pp.35-51

[141] The 17 countries are OECD members, excluding Greece, Portugal, Turkey, Iceland, Australia and New Zealand. These countries are those for which weights, derived from the IMF's Multilateral Exchange Rate Model, were available (see J.R. Artus and A.K. McGuirk, "A Revised Version of the Multilateral Exchange Rate Model", *IMF Staff Papers*, vol. 28, No. 2, June 1981). These weights are intended to reflect not only the importance of a country's export markets but also the importance of other exporters to those markets.

[142] An improvement in relative prices and costs is indicated by a decrease in the index.

[143] Except for Spain and Turkey, where the variables are expressed in index form. For all the other countries indices gave less significant results.

[144] The high coefficient for Turkey may be explained by its very small share in the OECD market: this makes any percentage point variation in shares very large in terms of percentage changes.

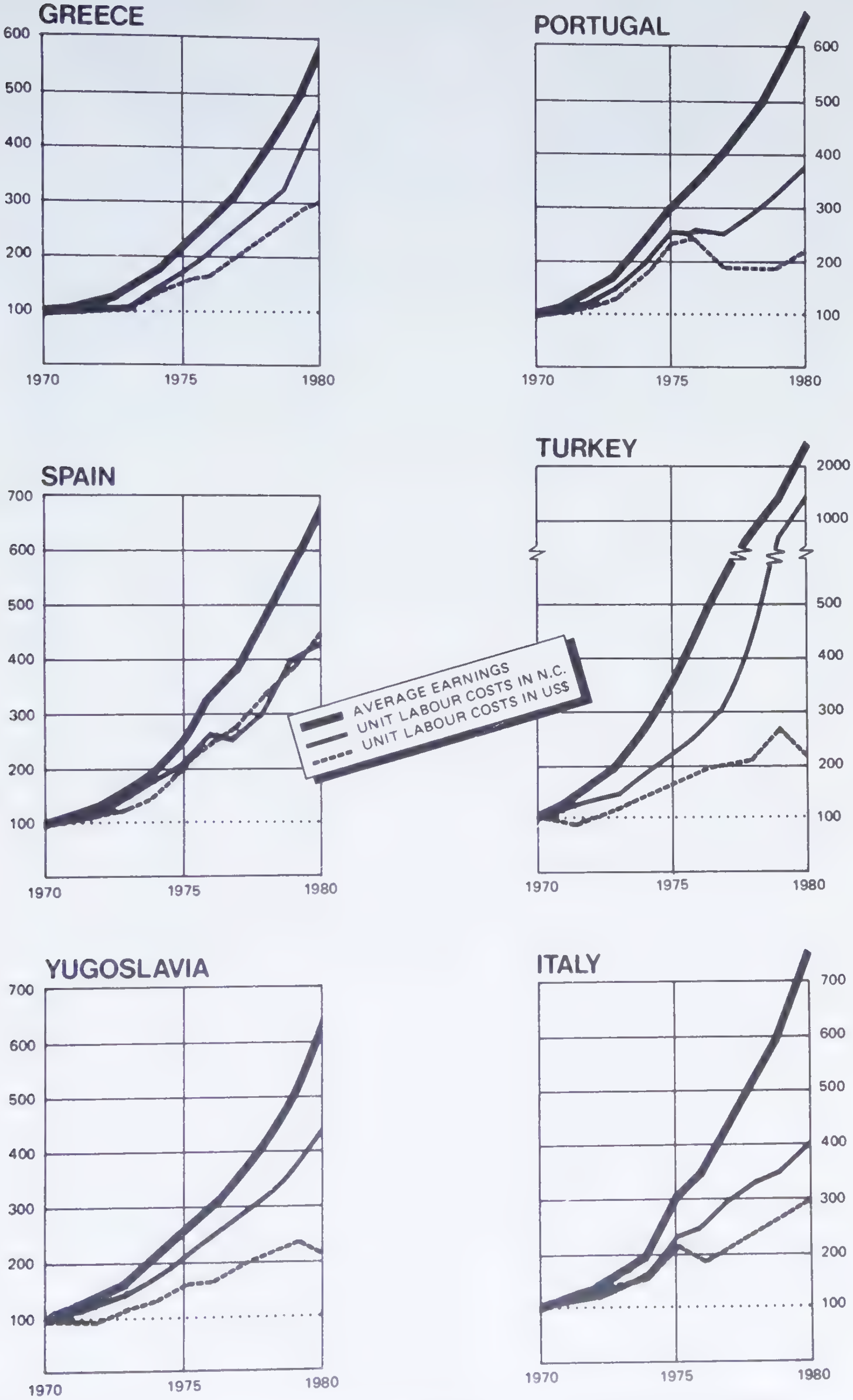
[145] One problem concerns the lag structure of such models: e.g., Junz and Rhomberg *loc.cit.*, have concluded that the response of trade flows to relative price changes may be stretched out over a period of up to five years.

[146] Goldsbrough *loc.cit.*, found price elasticities to be significantly lower for intra-firm trade than for "conventional" trade.

CHART 2.2.1

INDICES OF LABOUR COSTS IN MANUFACTURING

(1970 = 100)

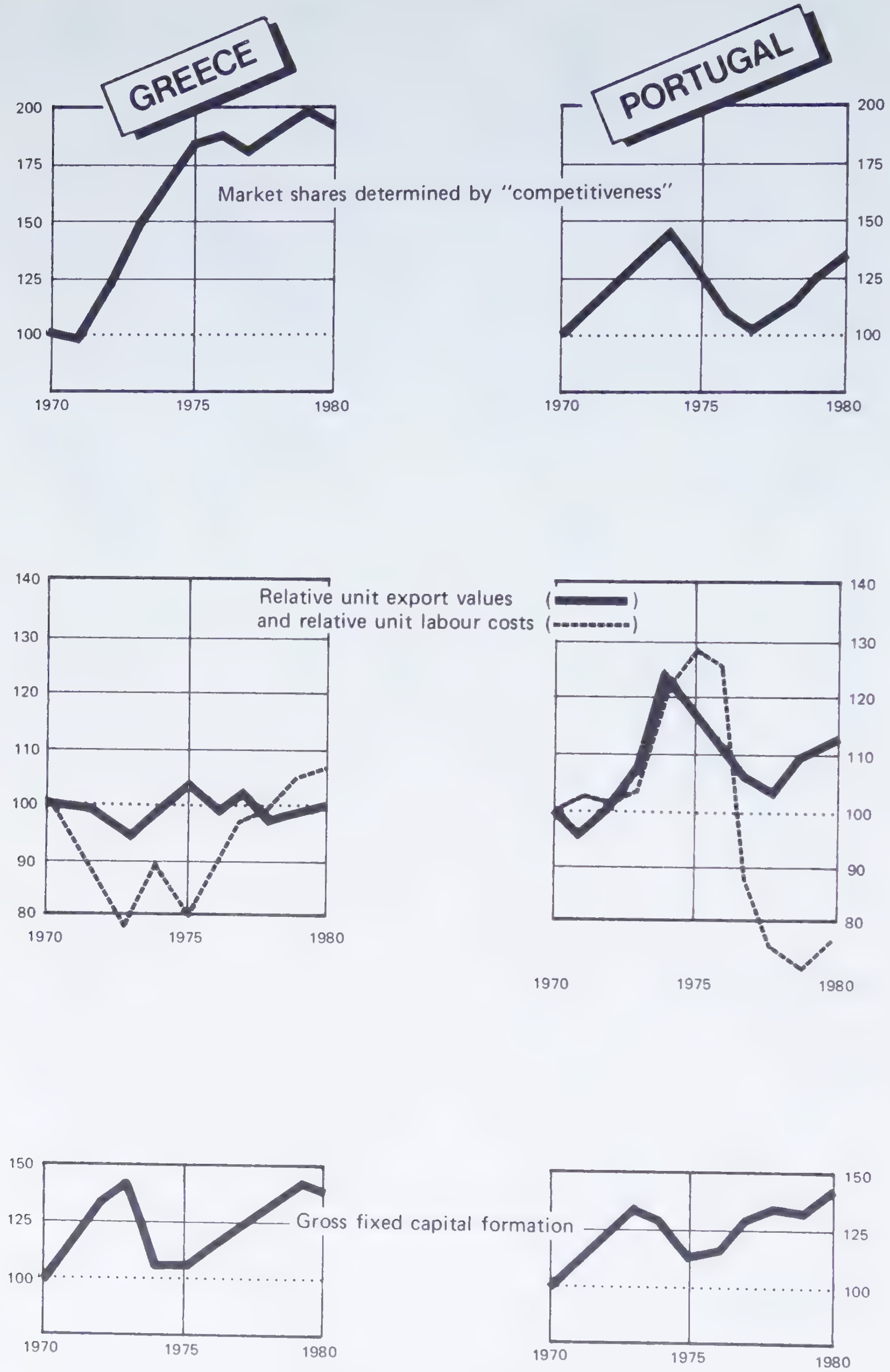


Sources: United Nations, Monthly Bulletin of Statistics; International Labour Office, Yearbook of Labour Statistics; OECD, National Accounts; National Sources for Portugal (compensation of employees and employment), Spain and Turkey (employment) and Italy (compensation of employees).

CHART 2.2.2

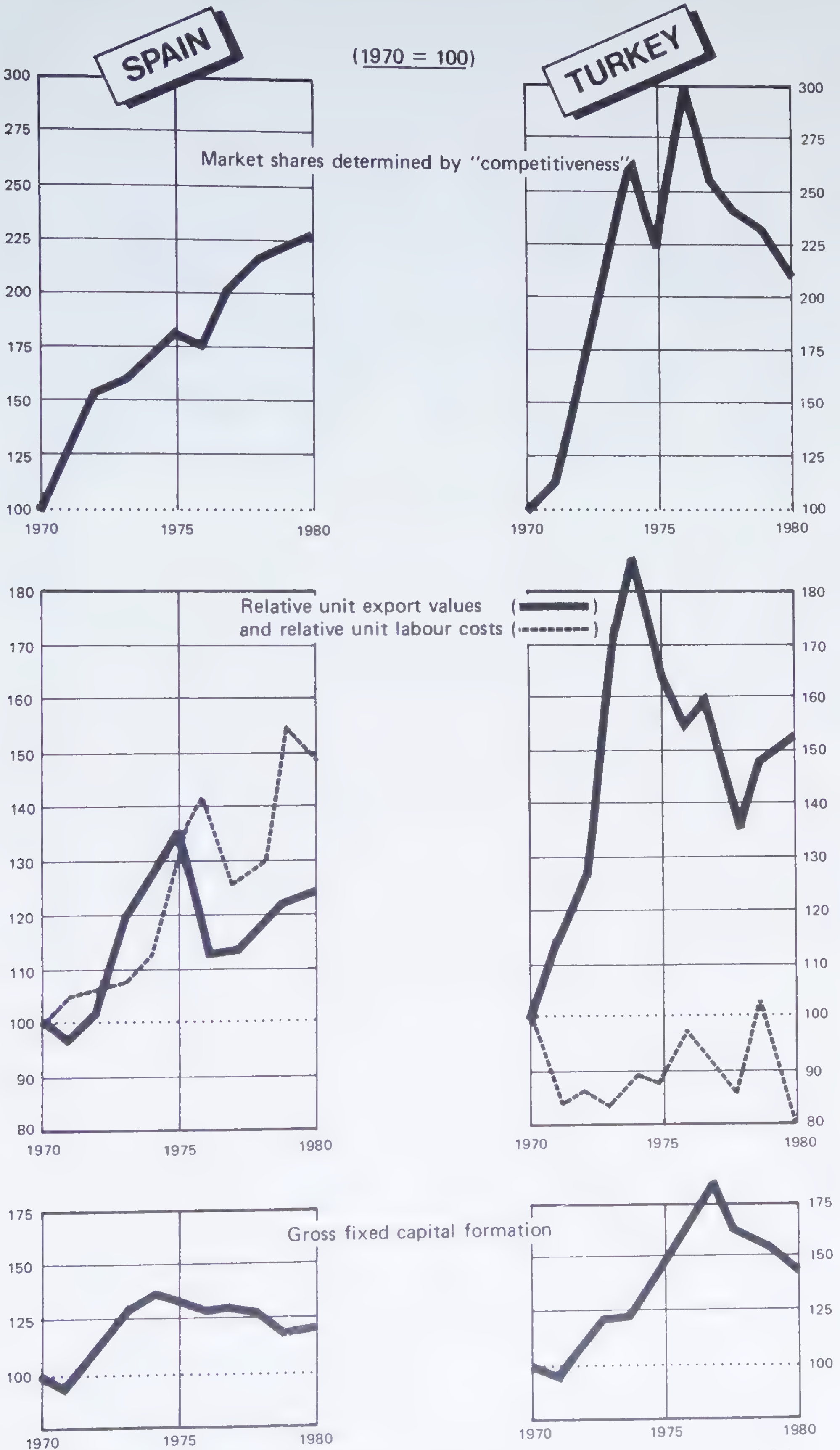
MARKET SHARES AND FACTORS AFFECTING "COMPETITIVENESS"

(1970 = 100)



Sources: United Nations, Economic Bulletin for Europe, Vol. 34, nº4; also as for chart 2.2.1.

## CHART 2.2.2 (Continued)
## MARKET SHARES AND FACTORS AFFECTING "COMPETITIVENESS"

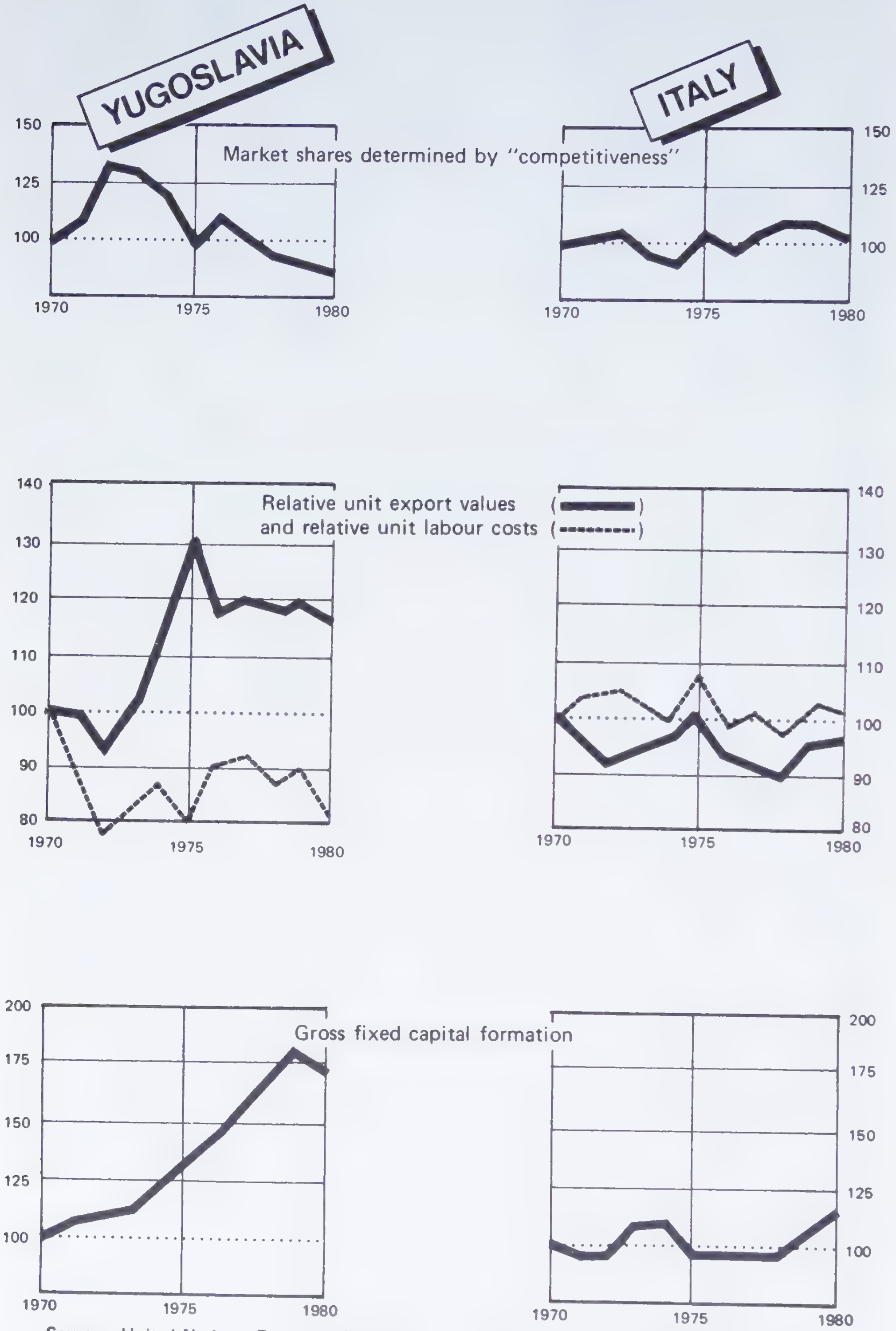


Sources: United Nations, Economic Bulletin for Europe, Vol. 34, n°4, also as for chart 2.2.1.

CHART 2.2.2 (Concluded)

MARKET SHARES AND FACTORS AFFECTING "COMPETITIVENESS"

(1970 = 100)



Sources: United Nations, Economic Bulletin for Europe, Vol. 34, nº4, also as for chart 2.2.1.

TABLE 2.2.3

**Export performance: Regression equation results**

| | Greece | Portugal | Spain | Turkey | Yugoslavia | Italy |
|---|---|---|---|---|---|---|
| Coefficient of the cost variable | −0.60 | −0.41* | 1.27 | −4.99* | −0.65* | −0.73* |
| t-value | (1.72) | (3.13) | (1.78) | (2.81) | (2.66) | (2.80) |
| Lag in years | — | 1 | 2 | 2 | 1 | 1 |
| Coefficient of the investment variable | 0.32 | 0.82* | 1.63* | 0.93 | 1.42* | 0.60* |
| t-value | (1.05) | (4.09) | (2.81) | (1.63) | (2.85) | (2.15) |
| Lag in years | 1 | 2 | 2 | 2 | 2 | 2 |
| $\bar{R}^2$ | 0.15 | 0.70 | 0.76 | 0.59 | 0.72 | 0.40 |

*Significant at the 95 per cent confidence level

of shoes produced in Portugal may increase, Portuguese shoes may continue to be much cheaper than French or Italian ones). This argument leads to a consideration of the structural factors which might affect a country's competitive strength.

### (iii) Structural determinants of "competitiveness": a cross product analysis

The main purpose of this section is to identify some of the structural factors underlying differences between products in south European export competitiveness. The factors examined are those which figure prominently in theories aiming to explain the patterns of international trade, namely, factor proportions and neo-technological theories. The section starts by briefly summarizing this theoretical framework. Some measures of the factor and technological characteristics of various products are then discussed, and estimates are presented of the extent to which these characteristics are embodied in south European exports of manufactures. Finally, cross-section regression analysis is used to explore the extent to which these product characteristics are associated with inter-product differences in the export performance of each country.

#### (a) *Factor intensities and technological factors in trade*

In the text book version of the factor proportions model (the Heckscher-Ohlin-Samuelson model), comparative advantage in particular products varies from country to country according to international differences in the relative endowment of capital and labour. Technological factors are assumed to play no role in determining trade patterns since, for each commodity, technology is given and equally available to all countries.[147] This assumption proved to be a rather controversial one, particularly after Leontief's test of the Heckscher-Ohlin theory on the trade data for the United States.[148]

In the wake of the "Leontief Paradox" the theoretical and empirical analysis of international trade patterns has taken two main directions. One has been to revise the critical assumptions of the static factor proportions model – for example, by taking human capital (skilled labour) into account, or by developing a dynamic version of the model. The other line of development has been to emphasize the role of technological factors in determining comparative advantage and trade patterns. This is the case of the "technological gap" and "product cycle" theories, which see technical leadership as a means of gaining or maintaining comparative advantage in certain products.

During the 1970s a number of empiricial studies attempted to incorporate both approaches in a more comprehensive explanation of trade structures.[149] Hufbauer (1970) tested the degree to which various theories explained the trade patterns of western countries and concluded that "no one theory monopolizes the explanation of manufactures trade"; and Hirsch (1974) supported the view that different theoretical explanations are required to explain different classes of trade. Helleiner (1976) established a relationship between the competitiveness of less developed countries (measured by product market shares) and a number of variables measuring the factor intensity and technological characteristics of the products exported by these countries. A similar approach is used here, although the variable to be explained is not the product market share, but the change in this share determined by "competitiveness". In fact, the primary concern here is not with providing an explanation of export structures, but rather with determining the relative factor requirements and technological properties of the products in which the south European countries have been gaining (losing) market shares. This is done by first estimating the factor and technology content of these countries' exports, and then relating the estimated product characteristics to the countries' competitiveness in different products.

#### (b) *Measuring the "product characteristics" of south European manufactured exports*[150]

Among those who have tried to quantify the factor and technological content of manufacturing industries, Hufbauer (1970) presented empirical measures for what he called the "characteristics of the commodities enumerated in the 2-digit and 3-digit SITC". These "product characteristics", which stand for factors usually included in the neo-factor proportions and in the neo-technological theories of trade, include fixed capital per employee, wages per man, scale economies, the consumer goods ratio and a product differentiation coefficient.

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[147] This is a simplified two factor version of the authors' original work. In fact, Ohlin divided labour into different skill groups and distinguished between long-term and short-term capital.

[148] In a well-known paper published in 1953, Leontief demonstrated that United States' exports embodied less capital per unit of labour than its imports – a result that contradicted the orthodox factor proportions theory, as the United States is one of the most capital abundant of countries.

[149] See footnote 132.

[150] For an extensive presentation and discussion of the factor intensity of south European exports, see "Changing Comparative Advantages in Manufactured Exports from Southern Europe, 1965-1978", *Economic Bulletin for Europe*, vol.33, No.4, December 1981

The first two are factor-intensity indicators, which have been widely used in empirical studies following the factor proportions approach. The ratio of fixed captial to labour is a measure of physical capital intensity. Skilled labour is considered as "human capital", and is measured by wages per man, on the assumption that wage differentials reflect skill differences.

The three other coefficients concern technological aspects. The scale economies indicator is the elasticity of output per man with respect to the size of plant, as measured by the number of employees; it indicates the extent to which certain products are produced under increasing returns to scale.[151] Although this might at first sight appear to be more relevant to large economies, Drèze's "hypothesis of standardization" argues that a small (and often low income) country may benefit from scale economies if it exports products that are internationally standardized (e.g. metal tubes).

The consumer goods ratio is the percentage of commodity output and imports purchased by final consumers, these being defined as households plus government bodies. The newly industrializing country is supposed to export a high proportion of consumer goods, in the wake of previous import substitution strategies, while the more industrialized country is expected to specialize more in producers' goods.

The product differentiation coefficient[152] is related to the "product cycle" theory of trade. Comparative advantage in products using new technologies and skilled labour will tend to be held by the technologically more advanced countries. But, as the production technology becomes standardized, the skill requirements (for example in design and management) become less critical and comparative advantage will then depend more upon other production factors. This change in relative factor requirements may then lead to the re-location of production in countries with a more appropriate relative factor endowment.

There is clearly some overlap between the standardization and product cycle theories, although one concentrates on final product characteristics and the other on changing input requirements. Standardized goods are usually associated with large scale production, and large scale production is usually undertaken only when the production technology has become relatively stable (i.e. has passed the experimental stages associated with the early periods of the product cycle). Relatively small and industrializing countries are expected to be more competitive in standardized rather than differentiated goods.

The factor and technological "characteristics" of south European manufactured exports to the OECD in 1970 and 1980 are shown in table 2.2.4.[153] The above-mentioned coefficients at the 3-digit level of the SITC are weighted by the value of each country's exports of the different products. Changes in the average value of the coefficients therefore reflect shifts in the composition of manufactured exports.

According to the capital theoretic approach to economic development,[154] capital accumulation tends to move comparative advantage from unskilled labour-intensive goods to capital- and/or skill-intensive products, from consumer to producer goods, from old and standardized to newer and more differentiated products. Although the figures in table 2.2.4 refer only to exports (not to net exports, which are often used to measure comparative advantage), they do not appear to confirm these predictions: despite the relatively high rates of industrial growth in southern Europe in the 1970s, in most cases

TABLE 2.2.4

**Characteristics embodied in south European manufactured exports to the OECD, 1970 and 1980**

| | Capital per man[a] | Wages per man[a] | Scale economies | Consumer goods ratio | Product differentiation coefficient |
|---|---|---|---|---|---|
| Greece | | | | | |
| 1970 . . . | 13 674.0 | 6 120.0 | 0.068 | 38.7 | 0.727 |
| 1980 . . . | 7 555.6 | 4 923.3 | 0.005 | 63.4 | 0.688 |
| Portugal | | | | | |
| 1970 . . . | 7 923.1 | 4 730.7 | 0.002 | 49.4 | 0.721 |
| 1980 . . . | 7 200.6 | 4 743.3 | — | 50.5 | 0.742 |
| Spain | | | | | |
| 1970 . . . | 11 040.0 | 5 649.2 | 0.037 | 38.5 | 0.804 |
| 1980 . . . | 13 935.5 | 6 338.8 | 0.043 | 25.9 | 0.784 |
| Turkey | | | | | |
| 1970 . . . | 13 270.3 | 5 167.3 | 0.019 | 44.0 | 0.648 |
| 1980 . . . | 9 092.5 | 4 334.1 | 0.023 | 57.0 | 0.579 |
| Yugoslavia | | | | | |
| 1970 . . . | 12 007.6 | 5 494.4 | −0.003 | 34.3 | 0.747 |
| 1980 . . . | 9 804.0 | 5 250.9 | 0.008 | 41.1 | 0.744 |
| Italy | | | | | |
| 1970 . . . | 10 040.4 | 5 670.6 | 0.030 | 37.5 | 0.812 |
| 1980 . . . | 10 288.1 | 5 593.0 | 0.027 | 37.8 | 0.823 |

[a] In 1963 US dollars. For definitions of all five variables see text.

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[151] The indicator is the exponent in the equation $v = k.n^a$, where v is the ratio of value added per person employed in a plant employing n persons to the average for all plants in the industry and k is a constant. A value of 0.06 for the exponent indicates that a doubling of plant size (measured by the number of persons employed) increases output per man by 6 per cent.

[152] This coefficient is defined as Un/Vn, where Un denotes the standard deviation of export unit values for shipments of product n to different countries and Vn denotes the unweighted mean of those unit values.

[153] The indicators of factor and technological intensity are based on data for the United States in Hufbauer *loc.cit.* This is convenient insofar as the relevant data are not generally available for the south European countries and it can be justified on the grounds that there is no evidence of significant factor-intensity reversals in manufacturing industry (in other words, the ranking of industries or products according to factor or technological intensity in different countries is very similar: see Lary, *loc.cit.* and Keesing, *op.cit.* However, one important qualification is that the American industries are not always defined so that they are homogeneous with respect to factor intensity: this could mean that an industry that is capital intensive in the United States might be labour intensive elsewhere, not because of factor intensity reversal but because of differences in the product composition of the industry (see *Economic Bulletin for Europe*, vol.33, No.4, p. 611).

[154] See *Economic Bulletin for Europe*, vol.33, No.4, pp. 603-606

the capital intensity (physical and human) of exports decreased, while the proportions of consumer goods and standardized products increased. This was particularly the case in Greece, Turkey and Yugoslavia; the characteristics of Portuguese exports changed very slightly. Spain is a clear exception to this pattern of factor intensity change. Actually, the export mix of Spain is the only one to have developed clearly towards a structure which is more typical of industrialized economies. The other countries appear to have maintained (Portugal, Italy) or reinforced (Greece, Turkey, and Yugoslavia) an export structure characteristic of economically less advanced countries. In fact, some of the export-oriented industries which were developed in south European countries over the last 20 years or so are not capital, skill or technology intensive. Such is the case of textiles and clothing in Greece, Portugal and Turkey, footwear in Portugal and Yugoslavia, and furniture in Italy. Nevertheless the capital intensity of Greek and Turkish exports in 1970 is surprisingly high. This is partly due to the large share of some natural resource-intensive products (e.g. non-ferrous metals, namely copper in Turkey and aluminium in Greece), but the share of such products in total exports has fallen since 1970. Furthermore, textiles are more capital intensive than clothing; therefore a move from textile yarn and fabrics to the latter industry (which has occured in Greece and Turkey) will be reflected in a lowering of average capital intensity and an increase in the consumer goods ratio.

The coefficients in table 2.2.4 refer to total exports of manufactures; they do not provide any information as to the characteristics of the individual product groups in which these countries have been most competitive in the last decade or so. In the following paragraphs cross-section regression analysis is used to identify the industry "characteristics" of the products in which the south European countries gained or lost market shares in the 1970s.

### (c) *"Competitiveness" and the characteristics of exported goods*

The equations used in the regression analysis are of the type:

$X_{ij}/X^*_{ij} = f(a_{ij}, b_{ij}, c_{ij}, \ldots)$ where the dependent variable is a measure of country j's "competitiveness" in product i, and $a_{ij}$, $b_{ij}$, $c_{ij}$, ..., are the factor or technological characteristics of export product i in country j.

"Competitiveness" here refers to changes in a country's market shares for individual products in individual markets. A possible measure of these changes is the ratio between the actual change in country j's exports of product i ($X_{ij}$), and the export change required to maintain a constant share in the market for the same product ($X^*_{ij}$). This quotient gives the proportion of the export increase exceeding (or falling short of) the growth required to maintain a constant market share (table 2.2.2).[155]

The independent variables – the "product characteristics" – are estimates of Hufbauer's coefficients for 14 products, obtained by weighting the 3-digit SITC coefficients by each country's export values. The characteristics for each of the 14 product groups were normalized by the average for total manufactures and refer to the mid-1970s. These "characteristics" were then related, in a linear form and across products, to the average indicators of "competitiveness" for the same goods for the period 1970–1980. Regressions were run for each south European country and on the pooled data for the six countries. In the pooled equation for total southern Europe all five product characteristics were included as explanatory variables; for individual countries alternative combinations of product characteristics were examined and only the best results are shown in table 2.2.5.

The coefficient of the capital intensity variable is negative (though close to zero) in all the equations where it was included, but it is statistically significant only for Portugal and for southern Europe as a whole.[156] The skill-intensity variable is highly significant for total southern Europe, Portugal, Spain and Turkey, and the regression coefficient is positive in all cases except Turkey. The indicator of scale economies was included in the equations for Greece, Turkey and Yugoslavia, but proved to be significant only for southern Europe as a whole and Yugoslavia. The corresponding coefficients are positive (though rather low in the former), suggesting that "competi-

TABLE 2.2.5

**"Competitiveness" and the characteristics of exported goods, 1970–1980: Regression results[a]**

| | Capital per man | Wages per man | Scales economies | Consumer goods ratio | Product differentiation coefficient | $\bar{R}^2$ |
|---|---|---|---|---|---|---|
| Total Southern Europe (excluding Turkey) . . . . | −0.15*<br>(2.20) | 0.83*<br>(2.10) | 0.004**<br>(1.81) | −0.03<br>(0.32) | −0.70*<br>(3.53) | 0.38 |
| Greece . . . . . . | −0.12<br>(1.51) | . . | −0.03<br>(1.10) | . . | −0.31<br>(1.26) | 0.16 |
| Portugal . . . . . . | −0.46*<br>(3.21) | 3.28*<br>(4.18) | . . | . . | −2.25*<br>(4.23) | 0.60 |
| Spain . . . . . . . . | −0.20<br>(1.29) | 2.56*<br>(4.21) | . . | . . | 1.13*<br>(3.08) | 0.62 |
| Turkey . . . . . . | . . | −3.93*<br>(3.50) | 0.08<br>(1.46) | −1.92*<br>(4.10) | . . | 0.52 |
| Yugoslavia . . . . . | . . | . . | 0.06**<br>(1.95) | 0.18**<br>(2.07) | . . | 0.24 |
| Italy . . . . . . . . | −0.05<br>(1.19) | | | | | 0.03 |

[a] Values in brackets are t-values
* Significant at the 95 per cent or more of confidence level
** Significant at the 90 per cent of confidence level

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[155] In table 2.2.2, the figures are averages for 1970–1980 and refer to the OECD market. As the results for the OECD as a whole were obtained by adding the results for single importing countries, these ratios measure changes in market shares for single products in single markets, i.e. they measure the country's "competitiveness" in the market for each product.

[156] Excluding Turkey: when Turkey is included the statistical significance of all regression coefficients decreases, except that of the consumer goods variable.

tiveness" is partly associated with increasing returns to scale (perhaps with increasing product standardization, if Drèze's hypothesis is accepted). The consumer goods ratio is negatively and significantly associated with Turkish export "competitiveness", while the corresponding regression coefficient is positive, but very low, in the case of Yugoslavia . Finally, the degree of product differentiation appears to be a statistically significant factor for total southern Europe, as well as for Portugal and Spain. The signs of these last regression coefficients indicate that increased "competitiveness" has tended to occur in standardized products.

On the basis of the results obtained on the pooled data, south European export competitiveness is negatively related to physical capital, product differentiation and the consumer goods ratio (though the influence of the latter is very small) and positively related to human capital and scale economies. The regression equations also produced significant results for Portugal, Spain, Turkey and, to a lesser extent, Yugoslavia. In Portugal and Spain, gains in market share appear to be associated with products for which increasing skills and standardization are important: their export "competitiveness" does not appear to be very much due to (physical) capital-intensity. Turkey is most competitive in low-wage producer goods.

In Yugoslavia above average performance was associated with consumer goods and products where scale economies are important. This approach to the identification of structural factors underlying export competitiveness must be regarded as exploratory and, as is clear from the poor results for Greece and Italy, further work needs to be done.

### (iv) Concluding summary

The main purpose of this paper was to estimate some of the possible determinants of south European "competitiveness" in manufactured exports. Two distinct approaches were followed. The first tried to explain changes over time in the overall "competitiveness" of manufactured exports. The second concentrated on explaining each country's competitive strength in different products.

The determinants of changes in overall export competitiveness were investigated by means of export functions, which were estimated on time series data. For southern Europe as a whole, pooled cross-country and time series data were used to estimate the influence on market shares of changes in relative prices, relative costs and investment. The analysis failed to establish a significant explanatory role for the relative price variable, but relative costs do appear to have a significant influence on market shares. In the equations for individual countries, only cost and investment variables were used.

For most countries, export shares were positively influenced by investment. Outward-looking development strategies have been pursued in most south European countries over the last few decades and the pattern of investment seems to have favoured their export performance. The cost variable was significant for total southern Europe, as well as for Portugal, Turkey, Yugoslavia and Italy; for Greece the coefficient was negative but not significant and for Spain it was positive. In all cases, except Turkey, the elasticity of market shares with respect to relative costs was rather low. These low elasticities, together with the apparent irrelevance of the price variable, may reflect the growing share of intra-industry trade (especially of intra-firm trade) in the manufacturing exports of some south European countries.[157] It may also indicate that their "competitiveness" is more dependent on the absolute level of, rather than marginal changes in, relative costs or prices. In other words, the competitive strength of south European exports may also be related to structural factors.

The second part of the study was then devoted to trying to identify the structural determinants of south European "competitiveness". Estimates were first made of the factor and technology content of manufactured exports. It was found that in 1980 south European exports were less capital and skill intensive, and incorporated a higher proportion of consumption and standardized products, than in 1970 (the only clear exception to this pattern is Spain). This shows that the export-oriented industries developed in some of these countries in the last 20 years were labour intensive and in general used well-established technologies.

The impact of these structural factors on south European export performance was estimated by relating, for different products, an indicator of competitiveness to measures of the factor and technology content of 14 export products. A regression equation was first estimated on the pooled data for the six countries. The results showed that the export performance of southern Europe is negatively associated with physical capital intensity, the proportion of consumer goods and product differentiation, while the relationship with scale economies and with human capital is positive. The equations estimated for individual countries indicate that in Portugal and Spain export "competitiveness" is significantly related to skill intensity and to product standardization, but not to physical capital intensity. Turkey was found to be most competitive in low-wage producer goods. In Yugoslavia "competitiveness" is positively associated with scale economies and with the export of consumer goods. For Greece and Italy, the results were statistically rather poor.

In short, the explanations of the export performance of Portugal and Spain have some common features (except for the irrelevance of cost factors in the Spanish case), but in the remaining countries there appears to be a considerable diversity with respect to the determining factors. This diversity originates in the differences among south European countries in terms of their levels of development and economic structures.[158] There are a number of obvious family resemblances, which tend to set these countries apart from those of industrialized western Europe, but the group remains heterogeneous. In particular, the characteristics of the products in which south Europeans have been most competitive tend to vary among them, possibly because in the outward-looking development strategies that have been pursued the sectors to which priority has been given have been different in each country.

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[157] P.B.W. Rayment, "Intra-Industry Specialization and the Foreign Trade of Industrial Countries", in S.F. Frowen (ed.), *Controlling Industrial Economies*, MacMillan, London, 1983

[158] A study by the ECE of real income differences based on physical indicators, revealed that the 1973 per capita income of Turkey was one-third of that of Spain, 38 per cent of that of Greece, 44 per cent of that of Portugal and 50 per cent of that of Yugoslavia (see Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 31, no.2, New York, 1980).

# Chapter 3

# EASTERN EUROPE AND THE SOVIET UNION

## 3.1 GENERAL DEVELOPMENTS

In the centrally planned economies of eastern Europe and the Soviet Union there has been an upturn in economic growth. After historically low growth of 1.7 per cent in 1981, the rate of expansion of aggregate net material product – NMP, the usual measurement of national output in the centrally planned economies – more than doubled to a rate of 3.8 per cent in 1983. This is higher than in 1982 (2.8 per cent) and also above the aggregate NMP growth rate implied by the seven countries' aggregated annual plans for 1983 (some 3.3 per cent). The upturn was particularly pronounced in eastern Europe.

After stagnating and falling between 1980 and 1982, the aggregate NMP in the six east European countries grew by 3.4 per cent in 1983. Among other things, this reflected the high (4–5 per cent) growth of NMP in Poland; not only was it among the highest in the region in 1983, but it was the first increase of national output following successive annual contractions over the previous four-year period. Nevertheless, Polish NMP in 1983 remained below its level in 1975.

NMP growth also varied considerably among the other five east European countries in 1983: it was virtually zero in Hungary, 2.2 per cent in Czechoslovakia, 3 per cent in Bulgaria, 3.4 per cent in Romania and 4.4 per cent in the German Democratic Republic. In Bulgaria and Hungary the recent slowdown in growth continued.

On the basis of available information, it is estimated that NMP in the Soviet Union in 1983 increased by about 4 per cent, the same as in 1982. Net material product used for domestic consumption and net capital formation (NMP used, or resources for domestic use, roughly comparable to total domestic demand) grew by 3.5 per cent in 1982 and by 3.1 per cent in 1983. The 4 per cent estimate for NMP produced thus implies that a substantial part of the increment in Soviet output was again oriented to the foreign sector. Some other factors may have acted in the same direction.

According to the annual plans for 1984, aggregate net material product of the European centrally planned economies taken together should grow at a rate almost identical to that recorded in 1983 – in fact, slightly less than that in the Soviet Union and somewhat more in eastern Europe. This indicates that the centrally planned economies of eastern Europe and the Soviet Union are aiming to stabilize growth at the pace already achieved rather than to accelerate it. At the same time, actual growth recorded in 1981–1983, combined with the growth rates envisaged in the annual plans for 1984, suggest that the overall growth targets laid down in the 1981–1985 five-year plans are attainable for the Soviet Union, but out of reach for eastern Europe as a whole.

The acceleration in economic growth reflected two main factors. First, industrial activity was rather vigorous and, in fact, more so than NMP growth. Second, the overall structure of economic growth was such that the main supply constraints of previous years were eased. At the same time, export expansion continued and surpluses on both the trade and the current account balances in most countries of the region were larger than in 1982. Finally, investment activity – which contracted in eastern Europe and grew at rates of 2–4 per cent in the Soviet Union in 1980–1982 – expanded by some 2 per cent and 5 per cent respectively in 1983.

Taking into account the changes in the trend of development in the countries concerned, this section will examine six main areas: the recent growth of national output (sub-section (i)), factor inputs and efficiency in their use (sub-section (ii)), foreign economic relations (sub-section (iii)), resources for domestic use (sub-section (iv)), policy objectives for 1984 (sub-section (v)) and medium-term prospects (sub-section (vi)). In addition, a technical note on the presentation and aggregation of NMP statistics is given in sub-section (vii).

### (i) The recent growth of national output

In the 1981 and 1982 editions of the *Economic Survey of Europe*, recent developments in the centrally planned economies of eastern Europe and the Soviet Union were assessed within a medium- and to some extent, long-term framework. The medium-term assessment was required by the analysis of current developments made in the context both of trends in 1976–1980 and of prospects for the 1981–1985 period as set out in the five-year plans. The longer-term analysis mainly reflected the need to assess the size and potential duration of the growth slowdown that became evident at the end of the 1970s and the beginning of the 1980s. While medium-term trends and prospects will remain the background against which current developments are viewed, there are three reasons why developments in 1982–1983 need special attention. The main one – the recovery in economic growth in the centrally planned economies of the region – has already been mentioned. If the significance of this is to be reliably assessed, however, two more issues need to be scrutinized. The first consists of a problem which is simple to define but difficult to overcome – namely methodological difficulties in obtaining comprehensive statistical information and ensuring its consistency. This arises because, as in most other economies, there is an inevitable time lag between economic events and the statistical record. Preliminary data reported shortly after the end of a review year may be – and usually are – revised subsequently. During 1983, this unavoidable problem was reinforced by three others which complicated more than usual the assessment of developments in 1982–1983. *First*, revisions of many economic development indicators in eastern Europe and the Soviet Union in 1982 have taken place continuously,[159] and even figures for 1982 published in the regular statistical yearbooks in 1983 have had to be revised.[160] In some cases such revisions have been directly communicated to ECE (for instance by Czechoslovakia). *Second*, some countries such as Romania reported preliminary results for 1983 *before* final figures for 1982. Hence, even by mid-February 1984 there was still no comprehensive statistical information on economic developments in 1982, at the time when economic developments in 1983 were about to be assessed. *Third*, some revisions to the figures initially reported on 1982 are so substantial – partly due to the complexity of economic events in that year – that the revised data in fact show a *change in the opposite direction* to what was originally reported. For these reasons, economic developments in 1982, though already examined in the *Economic Survey of Europe in 1982* have had to be reassessed.

A further issue complicating assessment of recent economic developments in the region concerns methodological questions of the aggregation of overall economic growth targets in both the five-year and annual plans, as presentations and definitions used for the statistical reporting of economic events do not coincide in all the countries concerned. This applies particularly to the Soviet Union and Czechoslovakia. A detailed explanation of this problem and the way it has been treated in this section is given below in the technical note (sub-section (vii)) mentioned already.

The facts mentioned above, and figures available up to mid-February 1984, suggest the following features with regard to recent changes in national output in the centrally planned economies of eastern Europe and the Soviet Union.

*First*, the downturn in economic growth that started in the mid-1970s and persisted up to 1981 may have bottomed out in that year (table 3.1.1 and chart 3.1.1). Having fallen below 2

TABLE 3.1.1

**Net material product and sectoral gross output**

(*Annual percentage change*)

| | Net material product (billions of national currency units) at current prices | Net material product | | Gross output | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Agriculture[a] | | Industry | | Construction[b] | |
| | | Plan | Actual | Plan | Actual | Plan | Actual | Plan | Actual |
| *Bulgaria* | | | | | | | | | |
| 1976–1980 | .. | 7.7 | 6.1 | 3.7 | 2.1 | 9.2 | 6.0 | .. | 5.9 |
| 1980 | 20.5 | 5.7 | 5.7 | 3.7 | −4.5 | 6.3 | 4.2 | .. | 3.6 |
| 1981 | 22.0 | 5.1 | 5.0 | 4.7 | 5.9 | 5.6 | 4.8 | .. | 5.9 |
| 1982 | 22.8 | 3.6 | 4.2 | 2.2 | 5.2 | 4.5 | 4.6 | 3.8* | 1.5 |
| 1983 | .. | 3.8 | 3.0 | 2.7 | −7.0 | 4.8 | 4.6 | .. | .. |
| 1984 | .. | 3.8 | .. | 3.1 | .. | 5.0 | .. | 3.9 | .. |
| 1981-1985 | .. | 3.7 | .. | 3.4 | .. | 5.1 | .. | .. | .. |
| *Czechoslovakia*[c] | | | | | | | | | |
| 1976–1980 | .. | 5.0 | 3.7 | 2.7–2.8 | 1.6 | 5.7–6.0 | 4.7 | 6.2–6.5 | 3.0 |
| 1980 | 486.3 | 3.5 | 2.9 | 7.2 | 4.8 | 4.0 | 3.5 | 3.8 | 1.9 |
| 1981 | 473.3 | 2.5 | −0.1 | 2.6 | −2.5 | 2.7 | 2.1 | 2.8 | −1.4 |
| 1982 | 497.2 | −0.2 | 0.2 | 3.2 | 4.4 | 0.6* | 1.1 | .. | −3.7 |
| 1983 | .. | 1.6 | 2.2 | 2.7 | 2.2 | 2.4 | 2.7 | 2.0 | 2.4 |
| 1984 | .. | 2.8 | .. | —* | .. | 2.9 | .. | .. | .. |
| 1981–1985 | .. | 1.6-2.2 | .. | 1.8–2.2 | .. | 2.7-3.4 | .. | .. | .. |
| *German Democratic Republic* | [d] | | | | | | | | |
| 1976–1980 | .. | 5.0 | 4.2 | 2.6 | 1.3 | 6.0 | 5.0 | 5.0 | 3.3 |
| 1980 | 187.1 | 4.8 | 4.4 | 0.5[d] | 0.0 | 4.7 | 4.7 | 5.3 | 1.4 |
| 1981 | 196.1 | 5.0 | 4.8 | 0.8[d] | 1.5 | 5.0 | 4.7 | 2.8 | 4.1 |
| 1982 | 201.0 | 4.8 | 2.5 | 0.2[d] | −4.0 | 4.6 | 3.2 | 2.5 | 4.2 |
| 1983 | 210.1 | 4.2 | 4.4 | 1.0[d] | −2.5* | 3.8 | 4.1 | 1.4 | 4.3 |
| 1984 | .. | 4.4 | .. | 0.6[d] | .. | 3.6 | .. | 2.1 | .. |
| 1981–1985 | .. | 5.1 | .. | 1.1 | .. | 5.1 | .. | 3.4 | .. |
| *Hungary* | | | | | | | | | |
| 1976–1980 | .. | 5.4–5.7 | 3.2 | 3.2–3.4 | 2.9 | 6.0 | 3.4 | 5.5–6.0 | 2.4 |
| 1980 | 582.9 | 3.0–3.5 | −0.8 | 5.0–5.5 | 4.3 | 3.5–4.0 | −2.0 | 3.0–2.5 | −3.0 |
| 1981 | 634.9 | 2.0–2.5 | 2.5 | 3.0 | 2.0 | 3.0–3.5 | 2.8 | −1.0 | −0.2 |
| 1982 | 696.4 | 1.0–1.5 | 2.6 | 4.0–4.5 | 7.3 | 2–2.5 | 2.5 | −(1–2) | 0.5 |
| 1983 | 730 | 0.5–1.0 | 0–0.5 | 1–2 | −3 | 1–2 | 1 | −(2–3) | −(2–3) |
| 1984 | .. | 1.5–2.0 | .. | 3.4–4.1 | .. | 1.5–2.0 | .. | −(2–3) | .. |
| 1981–1985 | .. | 2.7–3.1 | .. | 2.3–2.8 | .. | 3.5–4 | .. | 2.1–2.7 | .. |

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[159] After the 2.6 per cent growth of NMP used reported in January 1983, three successive figures were reported on NMP produced in the Soviet Union in 1982. The first was one of 4.0 per cent in *Razvitie ekonomiki stran-chlenov SEV v 1982.g*, Moscow, 1983, pp. 21 (the figure of 3.4 per cent which in fact appeared on this page was corrected in an "erratum" to 4.0 per cent). Secondly, a figure reported in *Narodnoe khoziaistvo SSR v 1982 godu* (USSR Statistical Yearbook) Moscow 1983, p. 40 takes the form of an index number of 107 based on 1980 which, when compared with the index number for 1981 (103), implies NMP growth of 3.9 per cent in 1982. Finally, in *Statisticheski ezhegodnik stran-chlenov SEV 1983* (CMEA Statistical Yearbook), p. 53, NMP figures are also reported in the form of index numbers, this time based on 1970 – namely 175 for 1982 and 168 for 1981, implying NMP growth of almost 4.2 per cent. Taking into account that, in the last two cases, the indices on the basis of which NMP growth rates were calculated are only reported as rounded index numbers and – in addition – that the NMP growth rates calculated from them are respectively higher than and lower than the 4.0 per cent first mentioned, it was decided to assume that the 4 per cent was the most reliable. At the same time, it is noteworthy that on p.379 of the second source quoted above, a new figure of 3.5 per cent was reported for NMP used for domestic consumption and accumulation.

[160] For example, In Hungary certain of the main figures for the year 1982 shown in the annual statistical yearbook published in 1983 were subsequently revised in *Népgazdasági mérlegek* ("National Balances") 1982, Kozponti Statisztikai Hivatal, Budapest 1984.

TABLE 3.1.1 (*continued*)

| | Net material product (billions of national currency units) at current prices | Net material product | | Gross output | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Agriculture[a] | | Industry | | Construction[b] | |
| | | Plan | Actual | Plan | Actual | Plan | Actual | Plan | Actual |
| *Poland* | | | | | | | | | |
| 1976–1980 | .. | 7.0–7.3 | 1.2 | 3.0–3.5 | 0.5 | 8.2–8.5 | 4.7 | 7.4–7.7 | −0.5 |
| 1980 | 1 991.7 | 1.4–1.8 | −6.0 | 5.8 | −10.7 | 3.0–4.2 | 0.0 | .. | −10.0 |
| 1981 | 2 160.4 | −3.7[d] | −12.0 | 5.0[d]* | 3.8 | – | −10.8 | .. | −24.9 |
| 1982 | 4 753.0 | −1.6* | −5.5 | 5.0* | −2.8 | 0.6* | −2.1 | .. | −6.8 |
| 1983 | .. | 2.0–2.5 | 4–5 | 1.5–2.4 | 3.6 | 3.7–4.0[e] | 6.7 | .. | 4.4 |
| 1984 | .. | 2.6 | .. | 1.5–2.5 | .. | 4.5 | .. | .. | .. |
| 1983-1985 | .. | 3.5–5.6 | .. | 2.0–3.8 | .. | 3.8–5.4 | .. | .. | .. |
| *Romania* | | | | | | | | | |
| 1976–1980 | .. | 11.0 | 7.3 | 5.1–7.6 | 4.9 | 10.2–11.2 | 9.5 | .. | 5.8 |
| 1980 | 508.7 | 8.8 | 2.9 | 4.7–6.0 | −4.4 | 11.4 | 6.5 | .. | −0.8 |
| 1981 | 530.7 | 7.0 | 2.2 | 9.0[d] | −0.9 | 8.1 | 2.6[f] | .. | −4.8 |
| 1982 | 628.8 | 5.5 | 2.6 | 6.0–7.9 | 7.5 | 4.7[f] | 1.1[f] | .. | .. |
| 1983 | 654.5 | 5 | 3.4 | 5.1–5.6 | −2 | 6.6[f] | 4.8[f] | .. | .. |
| 1984 | .. | 7.3 | .. | 5.4–6.0 | .. | 6.7[f] | .. | .. | .. |
| 1981-1985 | .. | 7.1 | .. | 4.5–5.0 | .. | 7.6 | .. | 8.8 | .. |
| *Soviet Union* | | [g] [g] | | | | | | | |
| 1976–1980 | .. | 4.7 3.8 | 4.3 | 3.0 | 1.7 | 6.3 | 4.5 | .. | 2.6 |
| 1980 | 462.2 | 4.0 3.9 | 3.9 | 8.8 | −1.9 | 4.5 | 3.6 | .. | 1.2 |
| 1981 | 486.7 | 3.4 3.2 | 3.3 | 11.7 | −1.0 | 4.1 | 3.4 | .. | 2.0 |
| 1982 | 523.4 | 3.0 3.5 | 4 | 10.2[h] | 5.5 | 4.7 | 2.9 | .. | 2.8 |
| 1983 | 544.0* | 3.3 3.1 | 4* | 10.5 | 5 | 3.2 | 4.0 | .. | .. |
| 1984 | .. | 3.1 .. | .. | 6.4 | .. | 3.8 | .. | .. | .. |
| 1981–1985 | .. | 3.4 .. | .. | 2.5 | .. | 4.7 | .. | .. | .. |
| *Byelorussian SSR* | | | | | | | | | |
| 1976–1980 | .. | 6.0 | 5.2 | 2.3 | 1.5 | 7.4 | 7.2 | .. | 1.1 |
| 1980 | .. | 7.0 | 4.0 | 3.8 | −10.0 | 5.9 | 6.0 | .. | 0.3 |
| 1981 | .. | 3.9 | 5.0 | 18.9 | 12.9 | 4.1 | 5.0 | .. | 2.8 |
| 1982 | .. | 4.2 | 2.2 | 9.3 | −4.2 | 4.3 | 4.7 | .. | −0.7 |
| 1983 | .. | 3.8 | 7 | 12.0 | 9.4 | 3.4 | 4.9 | .. | .. |
| 1984 | .. | 3.9 | .. | 3.4 | .. | 4.1 | .. | .. | .. |
| 1981–1985 | .. | 4.3 | .. | 2.1 | .. | 5.1 | .. | .. | .. |
| *Ukrainian SSR* | | | | | | | | | |
| 1976–1980 | .. | 4.9 | 3.4 | 2.5 | 1.6 | 5.9 | 3.9 | .. | −1.7 |
| 1980 | 77.5 | 3.5 | 1.6 | 10.1 | −4.9 | 4.0 | 2.2 | .. | −3.9 |
| 1981 | 79.9 | 3.8 | 2.7 | 16.9 | 0.8 | 3.5 | 2.8 | .. | 0.1 |
| 1982 | 86.0 | 3.6 | 3.5 | .. | 6.9 | 4.0 | 2.9 | .. | 0.7 |
| 1983 | .. | 3.0 | 4 | 10.2 | 1.5 | 2.8 | 4.3 | .. | .. |
| 1984 | .. | 3.4 | .. | 1.8 | .. | 3.1 | .. | .. | .. |
| 1981–1985 | .. | 3.6 | .. | 2.3 | .. | 4.2 | .. | .. | .. |
| *Eastern Europe* | | | | | | | | | |
| 1976–1980 | .. | 7.0 | 3.9(5.0[i]) | 3.6 | 1.9 | 6.4 | 5.6 | .. | .. |
| 1980 | .. | 4.2 | 0.1(3.2[i]) | 4.8 | −3.9(−0.2[i]) | 5.2 | 3.0(4.2[i]) | .. | .. |
| 1981 | .. | 2.8 | −1.8(2.8[i]) | 4.5 | 1.8(0.8[i]) | 3.9 | −0.6(3.4[i]) | . | .. |
| 1982 | .. | 2.4 | −(2.2[i]) | 4.1 | 1.7(4.0[i]) | 2.8 | 1.1(2.3[i]) | .. | .. |
| 1983 | .. | 3.2 | 3.4(3[i]) | 2.5 | −0.4(−2.2[i]) | 4.1 | 4.6(3.8[i]) | .. | .. |
| 1984 | .. | 3.9 | .. | 2.3 | .. | 4.3 | .. | .. | .. |
| 1981–1985 | .. | 3.3 | .. | 2.9 | .. | 3.7–3.8 | . | | . |
| *Soviet Union and Eastern Europe* | | | | | | | | | |
| 1976–1980 | .. | 5.3 | 4.2 | 3.2 | 1.7 | 6.3 | 4.8 | | . |
| 1980 | .. | 4.1 | 2.7 | 7.4 | −2.6 | 4.7 | 3.4 | | .. |
| 1981 | .. | 3.2 | 1.7 | 9.2 | −0.1 | 4.0 | 2.2 | | .. |
| 1982 | .. | 2.8 | 2.7 | 8.1 | 4.2 | 4.2 | 2.4 | | .. |
| 1983 | .. | 3.3 | 3.8 | 7.5 | 3.3 | 3.4 | 4.2 | | . |
| 1984 | .. | 3.7 | .. | 5.1 | .. | 4.0 | . | . | .. |
| 1981–1985 | .. | 3.4 | .. | 2.6 | .. | 4.4 | | | |

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*Sources*: National statistics, plans and plan fulfilment reports and, in some cases, direct communication to ECE

*Note*: Throughout this chapter, unless otherwise stated, average annual percentage changes over five-year periods are average annual percentage changes between the final year of period shown and the final year of the previous five-year period

[a] For five-year periods, average annual percentage changes are calculated on the basis of annual averages relative to the annual averages for the previous five-year period total

[b] Sitework. See footnote a to table 3.4.4

[c] NMP plan figures: direct communication from State Planning Commission

[d] The level of NMP shown for the German Democratic Republic is expressed at 1980 constant prices. The planned target for agriculture in the same country is expressed throughout in terms of net output (including food processing) as is that for Romanian agriculture, plan 1981

[e] Sales at constant prices

[f] Marketable production

[g] NMP used for net capital formation and consumption

[h] On the basis of 1976–1980 average annual output

[i] Excluding Poland

per cent in 1981, the NMP growth rate for the region rose to almost 3 per cent in 1982 and to close to 4 per cent in 1983 – the fastest since 1978. Aggregate NMP growth rates for the seven countries concerned, as set out in their annual plans for 1984, are roughly the same as in 1983. This offers additional evidence that the downward trend may have been arrested at a new trend rate of expansion of some 3–4 per cent. However, as stated earlier, aggregate figures for the region as a whole conceal substantially different movements in the Soviet Union on one hand and eastern Europe on the other.

*Second*, the decelerating trend in eastern Europe persisted for seven consecutive years without any upward variation, growth declining from more than 6 per cent in 1976 to an absolute contraction of nearly 2 per cent in 1981. Chart 3.1.1 illustrates that the decline was almost constant.[161] However, once recovery started, the upward changes were strong and were in fact more pronounced than the preceding deceleration. The NMP growth rate of almost 4 per cent implied by the aggregated annual plans of east European countries for 1984 indicates a further small acceleration.

*Third*, if Poland – where developments in the second half of the 1970s and the beginning of the 1980s were unique in the region – is left aside, three characteristics emerge from table 3.1.1 and chart 3.1.1. On one hand, in this case also a downward trend of growth is evident, thus confirming that the deceleration that started in the region in the mid-1970s was widespread. On the other hand, in the five east European countries jointly (Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary and Romania), the deceleration was much less pronounced than in eastern Europe as a whole, and moreover, there was no absolute contraction in any year. Thus the impact of the rather specific Polish experience tended to overstate the broader regional deceleration. Finally, in the five east European countries mentioned above, the slowdown in NMP growth continued through 1982. Hence, the first increase in the growth of aggregate NMP of these countries after 1977 was recorded only in 1983. Thus, the upturn which occurred a year earlier for eastern Europe as a whole, merely reflected the fact that the 6 per cent contraction of NMP in Poland in 1982 was only half that experienced in 1981; this influenced positively the growth rate for eastern Europe as a whole.

*Fourth*, as in eastern Europe, a decelerating trend in NMP growth in the *Soviet Union* was also present over the medium-term and was followed by an upward change in recent years. However, the significance of recent changes in Soviet NMP growth in determining the trend is not so easy to judge as in the case of eastern Europe. The lowest NMP growth rate in the Soviet Union was in fact recorded as far back as 1979, while in later years growth seems to have fluctuated around a 3-4 per cent trend. Hence, the figures in table 3.1.1 and chart 3.1.1 lend themselves to two interpretations. Focusing backward on 1979, developments appear to indicate that a relatively stable trend of expansion of about 4 per cent has now been reached. However, in a longer perspective, the recent changes in Soviet NMP growth can also be seen as a part of the long-term slowdown recorded throughout the 1970s. Finally, taking into account the stability of Soviet NMP growth in 1980–1984, when rates of expansion varied narrowly within a band of 3–4 per cent, recent changes in growth rates must also be viewed as an outcome of the country's long-term shift to slower but more stable rates of increase in order to give priority to a more intensive, i.e. more resource-efficient, path of development.

*Fifth*, patterns of economic growth presented in table 3.1.1 and chart 3.1.2 shed more light on recent overall developments in eastern Europe and the Soviet Union. Three important conclusions may be drawn from the data shown. In the first place a scrutiny of industrial production confirms, at the level of the region as a whole, a slowdown which ran almost parallel with that of NMP. A second conclusion is that while in eastern Europe industrial growth rates remained constantly above those of NMP, in the Soviet Union NMP growth rates and those of gross industrial production have changed rank almost every year since 1976. This indicates that sectors other than industry played a more prominent role in growth in the Soviet Union than in the east European countries as a whole. Thirdly, gross agricultural production also showed an overall deceleration; this was not decisive for overall growth in eastern Europe, since the share of agriculture in total NMP is relatively low, and the rates of expansion in the six east European countries taken together do not coincide. However, in the Soviet Union, agriculture developed quite differently from the economy as a whole. In fact, the absolute 3 per cent contraction in gross agricultural production in 1979 substantially influenced overall economic growth in that year, the NMP growth rate falling to its lowest-ever rate of 2 per cent. Furthermore, the fact that gross agricultural production contracted further in the next two years (1980 and 1981, a rare succession of bad agricultural years in the history of the country) also played a significant part in the recent overall economic growth slowdown of the Soviet Union. This is a further reason why the recent changes in output should be seen from both the medium and long-run points of view, as mentioned above.

*Sixth* and finally, table 3.1.1 and chart 3.1.3 suggest several main features of the individual east European countries. On one hand, in the second half of the 1970s, the slower trend of growth was visible in all east European countries, but not to the same extent in all of them. As well as in Poland, it was very pronounced in Hungary, Romania and, to a lesser degree, in Czechoslovakia. The slowdown was least apparent in Bulgaria and the German Democratic Republic. On the other hand, the main impulse for overall economic growth in all the east European countries has been provided by industry: the medium-term development trend of gross industrial production in all the countries concerned – with a few exceptions in individual years – ran almost parallel with the NMP development trend and in most cases above it. At the same time, and as could be expected from its share in NMP produced - which ranged between 9 per cent and 22 per cent in 1975 and 7 per cent and 17 per cent in 1980[162] – agriculture did not play the decisive role in overall development in any east European country. In fact, in Bulgaria, Czechoslovakia, the German Democratic Republic and even Hungary, changes in the growth rates of gross agricultural production moved in opposite directions relative to NMP in several years. Even in those countries, however, agriculture played a significant part in some individual years, when it slowed down or even in several cases intensified the overall tendency. This was particularly the case in the German Democratic Republic in 1982 and Hungary in 1983, and even more so in Bulgaria in 1983, when the almost 11 per cent drop in net agricultural output in fact determined the direction of the change in NMP growth

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[161] In fact, the decline has been constant ever since 1975, as the NMP growth rate in eastern Europe as a whole was more than 8 per cent in 1974 and above 7 per cent in 1975. See *Economic Survey of Europe in 1976*, Part I, United Nations, New York, 1977, p.76

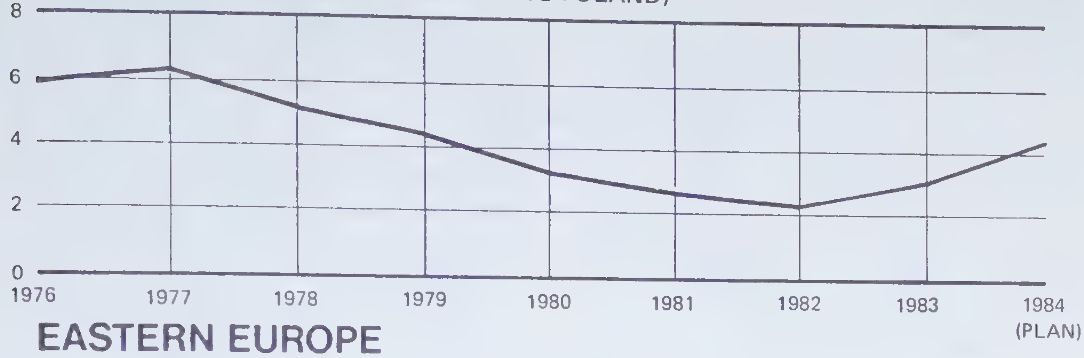
[162] *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA Statistical Yearbook), 1982, p. 41

CHART 3.1.1

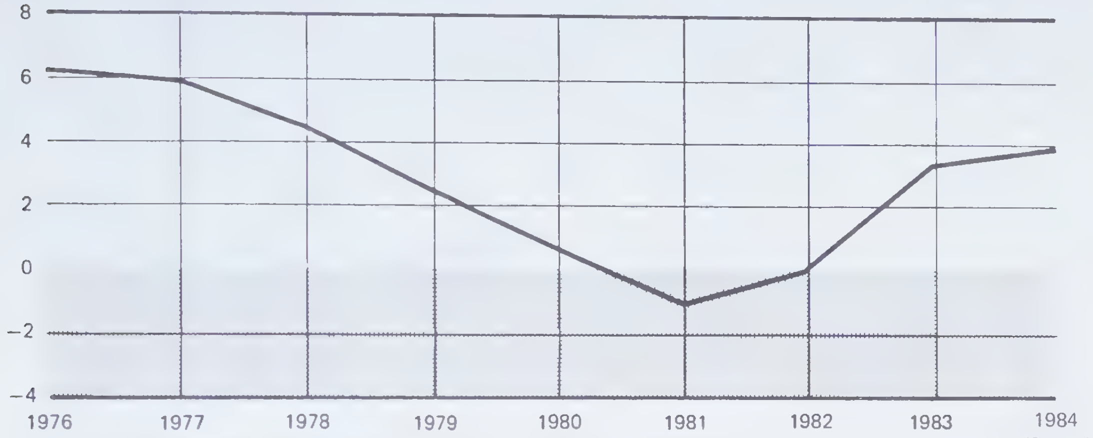
EASTERN EUROPE AND THE SOVIET UNION: GROWTH OF NET MATERIAL PRODUCT

(Annual percentage change)

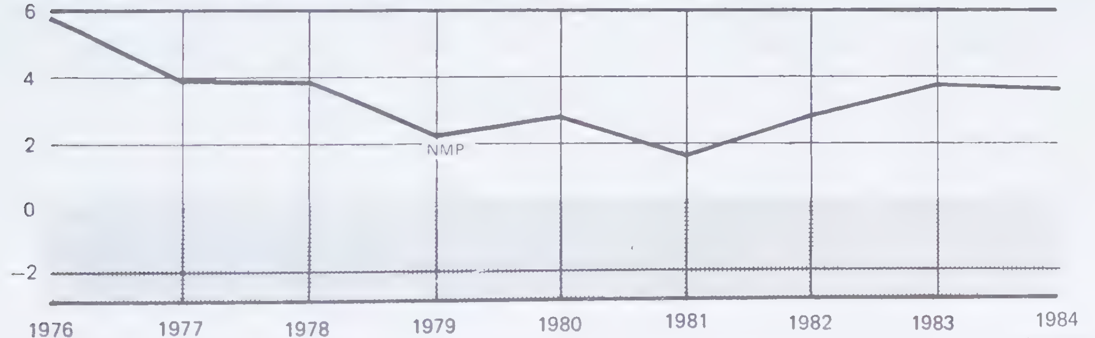
**EASTERN EUROPE** (EXCLUDING POLAND)



**EASTERN EUROPE**



**EASTERN EUROPE** AND THE **SOVIET UNION**



**SOVIET UNION**

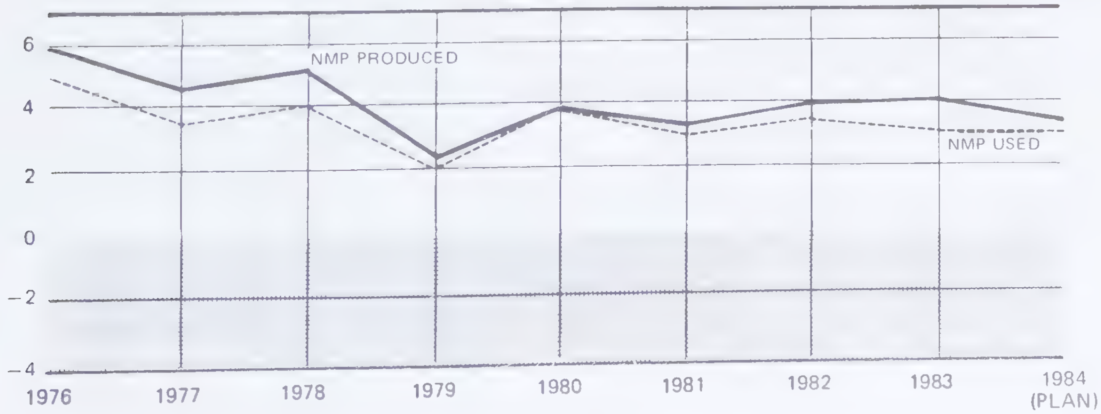


CHART 3.1.2

PATTERNS OF ECONOMIC GROWTH

(Annual percentage change)

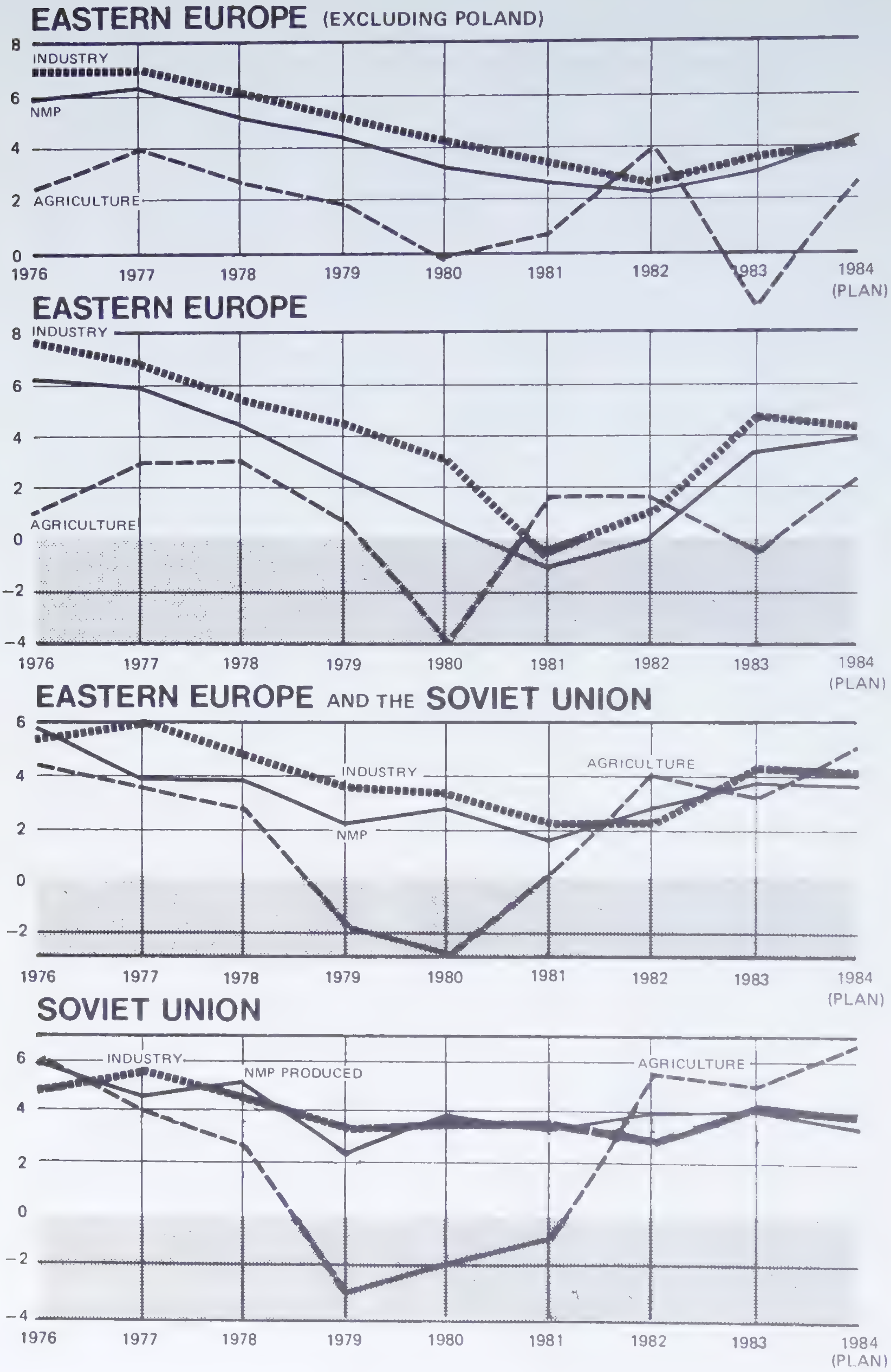
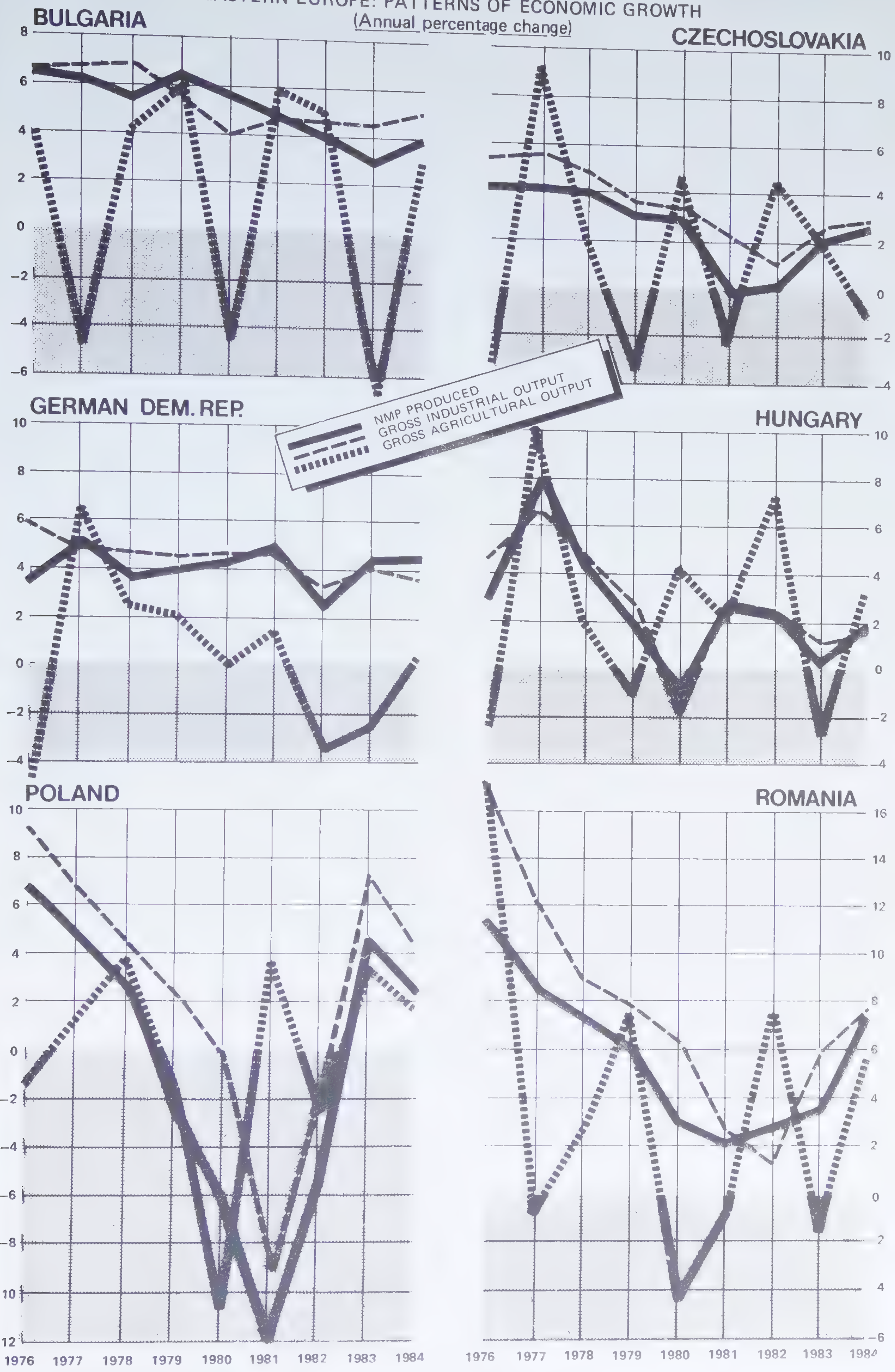


CHART 3.1.3

EASTERN EUROPE: PATTERNS OF ECONOMIC GROWTH

(Annual percentage change)



rates.[163] Over the longer term, the growth of agricultural production was much more important in Poland and Romania than in eastern Europe on average. In these two countries, trends in gross agricultural production apparently coincide with those of NMP. Also, it is worth noting that gross agricultural production in almost all the east European countries has been very volatile since 1976, with large contractions and substantial upward changes (sometimes as much as 10 per cent in a single year) succeeding one another from year to year. Finally, and quite importantly for the assessment of recent changes in national output: in most east European countries the first significant upward change in NMP growth rates did not occur, for various reasons, until 1983. This holds for Czechoslovakia, the German Democratic Republic and Romania. In Bulgaria in particular, and also in Hungary – partly because of the bad agricultural year mentioned above – the slowdown may have persisted even into 1983. Hence, the only country in which the improvements relative to past trends in both 1982 and 1983 were rather strong was Poland. However, the change in 1983 was only the first increase in the country's NMP level since 1979 – and even then the level of NMP remained below 1975. Taking into account the facts mentioned so far, it appears that the slowdown which prevailed since the mid-1970s in most east European countries has now largely been checked.

There are many indications that the factors underlying recent developments in both eastern Europe and the Soviet Union relate to the removal of supply constraints and a better overall balance of supply and demand, improved efficiency in the use of basic material inputs, substantial improvements on both the foreign trade and current account balances and also the more buoyant investment activity reported in 1983. They will be briefly analysed in sub-sections (ii) and (iii) below in addition to the more detailed assessments presented in the corresponding sections of this chapter.

### (ii) Factor inputs and efficiency in their use

Policies incorporated both in plans for the current five-year period and in annual plans for 1983 in all the east European countries and the Soviet Union called for significant increases in the efficiency of all input use. Efforts undertaken in 1983 in this direction were considerably more intense than in any previous year in all countries of the region. A year is, of course, too short a period to bring about substantial changes in this respect. But though the authorities in most countries of the region regularly express dissatisfaction with progress in input savings,[164] positive results – particularly for labour productivity and material intensity – were achieved up to 1983. A discussion of recent trends in factor inputs and efficiency in their use is therefore presented in this sub-section.

#### (a) *Labour force and labour productivity*

As already noted in previous editions of the *Economic Survey of Europe*, the slower growth in the labour supply has been a development constraint in all countries of the region, and in this respect 1983 was no exception. As shown in table 3.1.2, *total employment* in most countries of the region grew, as in 1982, by less than 1 per cent. However, there were two exceptions. In Hungary, the slow decline in total employment continued for a fifth consecutive year. This can be explained both by long-term demographic trends and, to some extent at least, by the increased possibilities for private economic activity based on self-employment or co-operation of various kinds with the state or co-operative sectors. These may not have been fully reflected in the reported figures. Secondly, in Poland, total employment stagnated in 1983. This followed an

TABLE 3.1.2

**Employment, in total and in the material sphere**

(*Annual percentage change*)

| | Total employment | | | | | | | | Employment in the material sphere | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
| Bulgaria[a] | 5.7 | −0.4 | 0.7 | 1.3 | 1.3 | 1.2 | 0.7 | 0.5* | −0.5 | −0.6 | 0.1 | 0.9 | 0.2 | 1.1 | 0.7 | 0.3* |
| Czechoslovakia | 0.5 | 0.8 | 0.9 | 1.0 | 1.0 | 0.7 | 0.4 | 0.6 | – | 0.3 | 0.5 | 0.6 | 0.4 | 0.3 | 0.1 | 0.5 |
| German Democratic Republic[b] | 0.9 | 0.5 | 0.8 | 0.8 | 0.5 | 0.9 | 0.9 | 0.7* | 0.6 | 0.2 | 0.5 | 0.5 | 0.4 | 0.6 | 0.6 | 0.7 |
| Hungary | −0.2 | −0.2 | 0.2 | −0.1 | −1.2 | −0.3 | −0.6 | −0.7 | −0.9 | −0.5 | −0.2 | −0.8 | −1.7 | −0.6 | 0.7 | −1.5 |
| Poland | −0.1 | 0.5 | −0.1 | −0.5 | −0.4 | 0.3 | −1.8* | –* | −0.5 | 0.3 | −0.4 | −1.0 | −0.8 | 0.1 | −4.0* | −1* |
| Romania | 0.8 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 1.0 | 1* | 0.3 | 0.5 | −0.4 | 0.1 | 0.5 | −0.1 | 0.2 | 0.6* |
| Soviet Union | 1.4 | 1.5 | 1.6 | 1.3 | 1.2 | 1.0 | 1.0 | 0.9* | 1.1 | 1.2 | 1.2 | 0.8 | 0.7 | 0.7 | 0.8 | 0.5* |

*Source*: As for table 3.1.1.

[a] Total employment refers to workers and employees only. Employment in the material sphere was estimated from growth of total NMP and NMP per employee in the material sphere.

[b] Employment at 30 September (excluding apprentices).

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[163] The growth of NMP in Bulgaria in 1983 (3.0 per cent) compared with the rate in 1982 (4.2 per cent) indicates a continuation of the slowdown since 1979. However, in sectors other than agriculture NMP grew by 6.1 per cent in 1983 (*Rabotnichesko delo*, 29 January 1983, p.1), while agriculture dropped by 10.7 per cent (direct communication to ECE). Agriculture was therefore responsible for slower NMP growth in 1983. If agriculture had merely stagnated, total NMP growth would have been 5.1 per cent, which would have reversed the downward trend in the NMP growth rate.

[164] Samples of this kind of statement are as follows: *Bulgaria*: "The struggle for a strict regime of saving raw materials did not achieve the required level, even though the level of raw materials, fuel, and energy used per 100 leva of total production in 1983 was 0.9 per cent less than in 1982. Possibilities for making more effective use of material resources were not applied efficiently enough" – *Rabotnichesko delo*, 29 January, 1984, p.2. In *Czechoslovakia*: "The results of joint work continued to be weakened by some shortcomings. These were manifested, above all, with regard to the attainment of a more intensive reproduction process, the introduction of scientific and technological findings, the efficiency of foreign trade, adherence to construction deadlines, the utilization of fixed assets and the management of inventories" – *Rudé právo*, 31 January, 1984, p.1. In *Hungary*: ". . . The intensification of work efficiency, the modernization of production and the improvement of competitiveness failed to keep pace with requirements everywhere" – *Magyar Hirlap*, 4 February, 1984. In the *Soviet Union*: "Some industries and departments did not fulfil the targets for the saving of fuel, thermal energy, electricity and rolled ferrous metals" – *Pravda*, 29 January, 1984, p.1. Somewhat earlier, a similar statement was made by the Prime Minister of the Soviet Union, N.A. Tikhonov: "It must be said that we have achieved certain results in reducing expenditures of material resources, fuel and energy. However, on the whole, the use of primary materials in the production of goods is still insufficiently effective from the standpoint of the present day". *Soviet Economy – Achievements, Problems, Prospects*, Novosti Press Agency Houce, Moscow, 1983, p.73.

absolute fall in 1982 which reflected mainly a new early retirement option scheme incorporated in a law passed in 1981. Here again, however, it seems that a number of those who took up this option continue to work part-time in the private sector, particularly in agriculture – a phenomenon not reflected in the official employment statistics. Thus, changes in registered employment do not necessarily coincide with changes in the active population.

As in previous years, *employment growth in the material sphere* in most countries of the region continued to decelerate. In those cases where total employment stagnated or fell, employment in the material sphere decreased or decreased faster. In Hungary and Poland, employment in the material sphere recorded an absolute decline. In the five countries where total employment rose, jobs in 1983 increased by 0.5 per cent or less. Therefore, the ever scarcer labour supply was felt most sharply in the material sphere as the tertiary sector still requires substantial increases in employment. National policies hence rely increasingly on *labour productivity* growth. Table 3.1.3 and chart 3.1.4 show that the efforts undertaken to improve the growth of labour productivity have had some results. Here again, however, recent changes need to be assessed separately from the medium-term developments of the second half of the 1970s and the objectives laid down in the five-year plans for 1981–1985.

*Recent changes in labour productivity*, shown on the left hand side of table 3.1.3 and in chart 3.1.4, clearly indicate that *labour productivity growth rates* increased in four out of the seven countries of the region – Czechoslovakia, Poland, Romania and the Soviet Union. In the German Democratic Republic, they decreased markedly in 1982, but largely recovered in 1983 while in Hungary labour productivity growth in 1983 remained virtually the same as in 1982. Only in Bulgaria has a deceleration which began in 1979 continued and indeed intensified up to 1983. The right side of table 3.1.3 suggests further evidence for a similar development: an increasing share of labour productivity in the overall NMP increment in 1983 against 1982 in almost all countries of the region.

*Medium-term developments in labour productivity* in the region are less clear-cut. On the one hand, there is, as shown in chart 3.1.4, a very close relationship between NMP and labour productivity growth rates in all countries of the region. That could have been expected, at least to the extent that labour productivity growth will be close to NMP growth when employment grows slowly or virtually stagnates. However, such an interpretation is only valid if labour productivity is merely viewed in terms of measured labour productivity. The fact that labour productivity growth coincided with NMP growth even when NMP growth rates were declining calls for closer attention.

In fact, labour productivity can be understood in two ways: as a simple quantitative relationship between a given level of output and the labour input (measured labour productivity), on one hand, and, on the other hand, as a productive potential of labour (potential labour productivity) which is determined by the skill of the labour force, the overall level of technological development and the economic management system.[165] Against this background, the apparently close correlation between changes in NMP growth and in measured labour productivity growth requires some further interpretation. In fact, if it is assumed that a continuous, general and substantial decline in the growth rate of labour productivity *potential* in the countries concerned is unlikely, the decreasing growth rates of measured labour productivity suggest that factors other than changes in labour productivity *potential* must have determined the *measured* labour productivity changes which occurred. Taking into account the analysis of recent changes in NMP growth rates in the previous sub-section, and also the findings of the analysis of labour productivity in the *1982 Survey*,[166] it emerges that the factors which *directly* slowed down NMP growth also *indirectly* imposed constraints on the growth of labour productivity. Thus, whenever growth rates of NMP have accelerated, labour productivity growth rates have closely followed – as in Czechoslovakia, Poland, Romania and the Soviet Union. Similarly, they have decelerated in Bulgaria, the German Democratic Republic and Hungary where NMP growth rates have also decelerated.

As regards medium-term changes in labour productivity growth it can be pointed out that, despite upward changes in the countries of eastern Europe in 1982–1983, no country which fixed a five-year labour productivity goal for 1981–1985 has so far attained it. However, and in contrast, average annual growth of labour productivity in the Soviet Union in 1981–1983 was some 3.1 per cent - virtually the same as the 3.2 per cent five-year plan target.

Besides the features common to all countries of eastern Europe and the Soviet Union, chart 3.1.4 suggests some further interpretation. On one hand, it is noteworthy that in four out of seven countries (Czechoslovakia, the German Democratic Republic, Romania and the Soviet Union), NMP growth rates

TABLE 3.1.3

**Labour productivity**[a]

| | Annual percentage change | | | | | | | Share in the growth of NMP | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1976–1980 | 1979 | 1980 | 1981 | 1982 | 1983 | 1981–1985 | 1976–1980 | 1979 | 1980 | 1981 | 1982 | 1983 | 1981 1985 |
| Bulgaria . . . . . | 6.1 | 5.6 | 5.5 | 3.9 | 3.5 | 2.7* | 4.6 | 100 | 87 | 98 | 79 | 83 | 90 | 124 |
| Czechoslovakia . . | 3.3 | 2.5 | 2.5 | −0.4 | −0.1 | 1.7 | . . | 89 | 81 | 86 | −0.3[b] | 50 | 77 | . . |
| German Democratic Republic . . . . . | 3.7 | 3.5 | 4 | 4.2 | 2.0 | 3.7* | 4.5* | 86 | 90 | 98 | 88 | 80 | 84 | 88 |
| Hungary . . . . . | 4.1 | 2.7 | 0.9 | 3.1 | 1.9 | 1.8 | 3.2* | 128 | 142 | 0.1[b] | 124 | 73 | 720 | . . |
| Poland . . . . . . | 1.7 | −1.3 | −5.2 | −11.9 | −1.6 | 5* | . . | 142 | 1[b] | 0.8[b] | 0.1[b] | 3.8[b] | 100–150 | . . |
| Romania . . . . . | 6.7 | 6.1 | 2.0 | 2.4 | 2.4 | 2.8* | 7.0 | 93 | 98 | 69 | 109 | 92 | 82* | 96 |
| Soviet Union . . . | 3.2 | 1.4 | 3.2 | 2.6 | 3.2 | 3.5 | 3.2 | 74 | 64 | 82 | 79 | 80 | 87 | 94 |

*Source*: As for table 3.1.1.

[a] Net material product per employee in the material sphere.

[b] Difference between the labour productivity and NMP indices when NMP declined Negative sign indicates that labour productivity fell more than NMP itself

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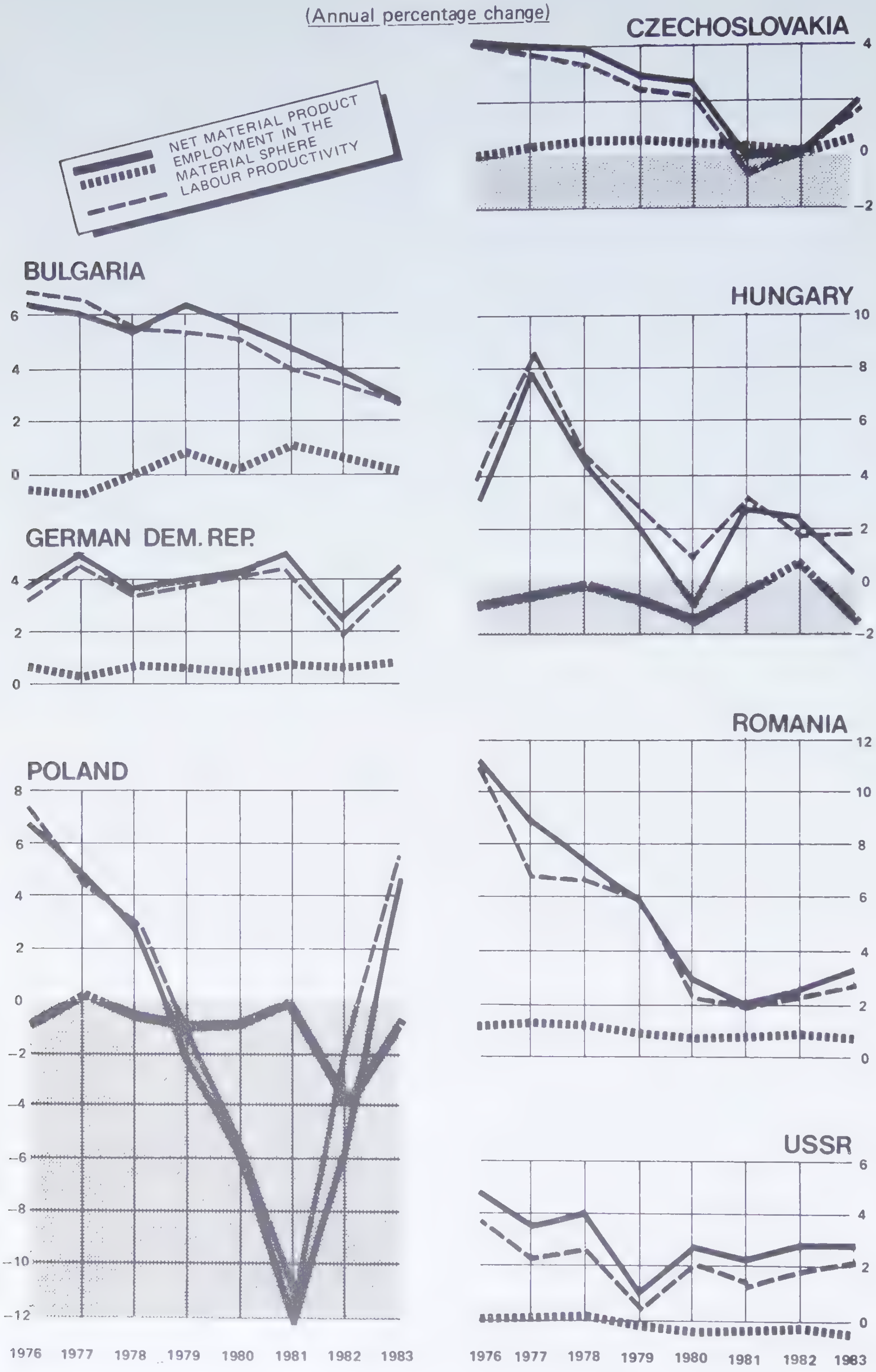
[165] For different approaches to the concept of productivity in general and of labour productivity in particular, see Z. Roman, *Productivity and Economic Growth*, Akadémiai Kiadó, Budapest 1982, pp.9–21 and 42–48.

[166] *Economic Survey of Europe in 1982*, pp.199–223.

## CHART 3.1.4

## NET MATERIAL PRODUCT, EMPLOYMENT IN THE MATERIAL SPHERE AND LABOUR PRODUCTIVITY

(Annual percentage change)



constantly remained above the levels of labour productivity growth rates. With two exceptions in 1976–1977, the same is true for Bulgaria. Only in Hungary and Poland – with a few exceptions in individual years – did NMP growth rates remain mostly below labour productivity growth rates.[167] On the other hand, in most countries of the region growth rates of employment in the material sphere remained rather stable. Only in Hungary and Poland were changes in employment in the material sphere more pronounced. Taking into account the already-mentioned relationship between their respective NMP and labour productivity growth rates, this may indicate that overall adjustment in these two countries was also reflected in employment policy, at least partially – and at all events to a greater extent than in the other centrally planned economies of eastern Europe and the Soviet Union.

### (b) *Investment, fixed assets and capital productivity*

A further important factor in both recent and long-term economic developments in the centrally planned economies of eastern Europe and the Soviet Union is investment. For almost a quarter of a century following the Second World War and the introduction of the new socio-economic system in eastern Europe, developments in eastern Europe and the Soviet Union were based on the continuous growth of all factor inputs – including stocks of fixed assets. In economic literature and official documents, this strategy is usually referred to as the *extensive path of economic growth*.

As early as the end of the 1960s and especially by the mid-1970s, it had become obvious that further development on "extensive" lines was increasingly impracticable. The five-year plans for 1981–1985 called for a significant turnaround toward a more efficient, "intensive" path of economic development. This meant that in the case of investment, an average annual growth rate planned for net material product of some 3.5 per cent would have to be attained with a 1.4 per cent annual growth rate of investment (table 3.1.4). The reversal of past policies was particularly pronounced in eastern Europe, where an average annual 3.3 per cent NMP growth was expected to be reached with virtually no rise in the volume of investment; in the Soviet Union, a 3.4 per cent NMP growth target was accompanied by a 2 per cent planned rate of growth of investment. Experience over the first three years of the quinquennium, however, demonstrates that the shift to the new development path is proving to be much more complex than originally expected.

In the six east European countries taken together, aggregate investment volumes fell in both 1981 and 1982 by some 7 and 4 per cent respectively. Together with the falls recorded in 1979–1980, investment in 1982 was about 14 per cent below the level of 1978. But the decline in investment was accompanied by considerably weaker NMP growth performance – including stagnation in 1980, an absolute contraction in the level of output of 2 per cent in 1981 and further stagnation in 1982. Though also explicable in terms of declining overall resource availabilities for domestic consumption – discussed in more detail in sub-section (iv) below – it may also indicate that in most east European countries overall economic development has been more dependent on the volume of investment growth than was originally foreseen. This hypothesis can be backed by features of economic development in the countries concerned. On one hand, among individual east European countries, the highest and most stable growth of NMP even in 1979–1982, was recorded in the German Democratic Republic and Bulgaria, the two countries in which investment experienced the slowest decline (in fact, in Bulgaria gross investment expansion in 1981–1983 was above both the average annual growth rate recorded in 1976–1980 and that envisaged in the 1981–1985 plan). On the other hand, the turnaround in aggregate investment in eastern Europe which finally occurred in 1983 coincided with the first recovery in the growth rate of NMP recorded since 1979.

A very similar conclusion can be drawn on the basis of Soviet developments in recent years. In fact, despite the generally higher growth rates recorded in the Soviet Union as compared with eastern Europe, the relationship between investment and NMP growth rates in 1980–1983 (2.4, 3.8, 3.6 and 5.0 per cent and 3.9, 3.3, 4 and 4 per cent respectively) was rather close.

This may explain why capital productivity, defined as the relationship between net material product and fixed assets,[168] is attracting increasing attention in all the countries concerned.

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[167] However, it should be kept in mind that the parallel evolution of NMP produced and labour productivity in Poland reflected the huge contraction in NMP produced itself. According to officially reported figures this brought about a 17 per cent decline in the labour productivity level by 1982 as compared with 1978: *Trybuna Ludu*, 3 February 1984, p.1

[168] While in the sources published in the national languages of the concerned countries the term "capital productivity" as such is seldom used, it can be found in many sources under different names (e.g. *fondootdacha* in Russian). Official translations of national sources use different terms, e.g. "*capital returns*": A. Anchishkin, *National Economic Planning*, Progress Publishers, Moscow, 1980, p.255

TABLE 3.1.4

**Gross investment**
(*Annual percentage change*)

| | 1976–1980 | 1979 | 1980 | 1981 | 1982 | 1983 | Plan 1984 | Plan 1981–1985 | Net material product Plan 1981–1985 |
|---|---|---|---|---|---|---|---|---|---|
| Bulgaria | 4.0 | −2.2 | 7.5 | 10.5 | 3.6 | —* | 8.1 | 3.6 | 3.7 |
| Czechoslovakia | 3.5 | 1.8 | 1.4 | −4.6 | −2.3 | —* | —* | −1.7* | 1.6–2.2 |
| German Democratic Republic | 3.4 | 1.4 | 0.3 | 2.8 | −6.5 | 3* | 4.3 | 0.5 | 5.1 |
| Hungary | 2.4 | 1.0 | −6.6 | −4.3 | −1.6 | −5[a] | −10.0 | 0 | 2.7–3.1 |
| Poland | 3.0 | −7.9 | −12.3 | −22.4 | −12.1 | 4.8* | −2.8 | −6.4* | 3.5–3.6[b] |
| Romania | 8.5 | 4.1 | 3.0 | −7.1 | −2.5 | 2.9 | 4.0 | 5.2 | 7.1 |
| Eastern Europe | 2.7 | −1.0 | −2.2 | −7.2 | −4.5 | 2.0 | 1.4 | −0.1* | 3.3 |
| Soviet Union | 3.4 | 0.7 | 2.4 | 3.8 | 3.6 | 5.0 | 3.9 | 2.0 | 3.4 |
| Eastern Europe and the Soviet Union | 3.2 | 0.1 | 0.9 | 0.4 | 1.2 | 4.2 | 3.2 | 1.4* | 3.5 |

*Source*: As for table 3.1.1
[a] Socialist sector only
[b] Three-year plan 1983–1985

At the beginning of 1984, no comprehensive data were available on changes in fixed assets in 1983 or, therefore, on capital productivity. However, those available for previous years, and estimates for 1983, suggest that in most countries of the region annual growth rates in capital productivity in 1982–1983 declined less than in several previous years. On the other hand, this improvement was only relative, since capital productivity in the two last years – excepting only in Poland in 1983 – nevertheless continued to fall. This is rather important, as the absolute contraction in capital productivity has continued throughout the period under review (table 3.1.5).

Taking into account the very high frequency of annual declines in capital productivity, the figures presented in this table should be evaluated critically, and the possible contribution of statistical distortions should not be excluded. Indeed, the methodological notes published in the CMEA statistical yearbooks state the following: "The basic funds are calculated at their initial value, without deduction for depreciation. The initial value represents the actual expenditure on the items and materials at the time it is put into operation. In the event of a revaluation of basic funds, a definite initial value is quoted for both the initial and the replacement value in a given year. The initial value of the item also includes further expenditure on the reconstruction and extension of enterprises".[169] While not very clear with regard to the revaluation procedure, this explanation confirms that the index numbers of fixed assets reported in the CMEA statistical yearbooks may, in the first place, be distorted because of a fictitious increase in the value of fixed assets since depreciation charges are not deducted and, secondly, because the price bases for fixed assets and NMP applied in calculating the indices do not necessarily coincide. However, there is no possibility of identifying the extent to which results for each country may be influenced in this way, and the reported figures can thus only be used as presented. At the same time, even if some of the figures in table 3.1.5, which are calculated on the basis of the CMEA statistical yearbook, are distorted, this does not in itself necessarily call into question the direction of changes in capital productivity in the countries concerned. In fact, the figures in table 3.1.6, which are calculated on the basis of the national statistical publications of the individual east European countries and the Soviet Union, also show that, with very few exceptions, capital productivity in most countries concerned has declined throughout the review period.[170] Some other recently published statements concerning fixed assets in the region suggest similar findings over the first three years of the current quinquennium.[171]

Altogether, though there is reason to regret the absence of a statistically more consistent time series for both NMP and fixed assets in the material sphere, it seems the conclusion can be drawn that that capital productivity in the east European countries and the Soviet Union is not likely to substantially improve in the immediate future. The problem has recently

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[169] *Statisticheskii ezhogodnik stran-chlov SEV* (CMEA Statistical Yearbook) 1978, p. 440.

[170] However, here again the possibility of statistical inconsistency should not be excluded, as some countries – e.g. Bulgaria and Romania – present their fixed assets time series only at historical costs, i.e. summing increments in fixed assets in individual years at the prices in those years.

[171] Academician O. Bogomolov, Director of the Moscow Insitute of Economics of the World Socialist System, in an interview recently reported by TASS, stated that: "Fixed assets in the CMEA countries grew about 20 per cent in the first three years of the current five-year period (1981–1985)". In the same period, NMP produced in the seven European CMEA countries – which account for some 95 per cent of NMP produced in aggregate by all the CMEA countries – expanded by somewhat more than 8.5 per cent. This implies that, on average, capital productivity in the CMEA countries declined by some 3.3 per cent annually in 1981–1983, which is similar to the calculations presented in tables 3.1.5 and 3.1.6 above. See *Press Bulletin* of the Permanent Mission of the Soviet Union to the United Nations organizations in Geneva, No.23 (694), February 1984.

TABLE 3.1.5

**Capital productivity**[a]
(*Average annual percentage change*)

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|
| Bulgaria | −1.6 | −2.9 | −1.6 | −0.3 | −2.6 | −2.3 | −2.5 | −3* |
| Czechoslovakia | −2.9 | −3.2 | −1.7 | −3.4 | −0.3 | −6.0 | −5.0 | −2.4* |
| German Democratic Republic | −2.0 | 0.2 | −2.4 | −2.2 | −0.8 | −0.7 | −2.4 | −0.8* |
| Hungary | −4.7 | 2.3 | −1.1 | −5.0 | −6.9 | −3.2 | −1.8 | −3* |
| Poland | −1.7 | −4.3 | −5.2 | −8.8 | −7.0 | −14.8 | −8.7 | 2–3* |
| Romania | −1.9 | −2.0 | −2.1 | −3.0 | −5.7 | −5.8 | −6.8 | −4* |
| Soviet Union | −1.8 | −2.2 | −3.0 | −4.0 | −3.4 | −3.2 | −2.6 | −2.6* |

*Source*: Calculated on the basis of the *Statisticheskii ezhegodnik stran- chlenov Soveta Ekonomicheskoi Vzaimopomoshchi* (CMEA statistical yearbook), 1981, pp. 41, 49; 1982 pp. 39, 44 and 1983, pp. 25, 44, and plan fulfilment reports for 1982

[a] Calculated from the ratio of the index of NMP divided by the index of fixed assets in the material sphere

TABLE 3.1.6

**Capital productivity**[a]
(*Average annual percentage change*)

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|
| Bulgaria | −3.0 | −1.6 | −3.9 | −0.3 | −2.6 | −2.3 | −1.8 | −3* |
| Czechoslovakia | −2.1 | −3.2 | −1.7 | −2.8 | −2.8 | −6.2 | −6.1 | −2.4* |
| German Democratic Republic | −2.0 | 0.2 | −2.4 | −1.1 | −0.8 | −0.6 | −2.4 | −0.8* |
| Hungary | −3.3 | 1.6 | −2.2 | −4.5 | −6.8 | −1.3 | −1.5 | −3* |
| Poland | −1.7 | −4.2 | −5.2 | −8.2 | −7.0 | −15.8 | −9.7 | 2–3* |
| Romania | −1.9 | −1.5 | −2.1 | −3.0 | −5.7 | −5.8 | −4.0 | −4* |
| Soviet Union | −2.6 | −2.9 | −2.2 | −4.8 | −3.6 | −3.4 | −2.6 | −2.6* |

*Source*: As for table 3.1.1

[a] Net material product per unit of fixed assets

been widely acknowledged in all countries concerned. This explains why in all countries better utilization of already existing capacities, more balanced relations between construction work and equipment, between new projects and reconstruction, better balance with regard to new capacities commissioned, suppression of idle time of equipment through more intensive shift working and other measures remain at the head of the list of policy priorities. Many other measures – taxes on fixed assets, financing of new capacities through state credits rather than from state funds, etc. – have at the same objective, namely to improve capital productivity in the years to come.

### (c) *Material inputs*

As already mentioned at the beginning of this section, an important constraint on overall economic growth in the centrally planned economies of eastern Europe and the Soviet Union were the structural imbalances which cumulated over several years. Table 3.1.7 shows that performance in some branches resulted in major bottlenecks, especially for the relatively sensitive industrial sector. This is particularly true of *crude steel production*, which in 1982 was almost 3.8 per cent (just over 8 million tons) below its 1978 level. The same was true of *rolled steel* output which was almost 3.9 per cent (about 6 million tons) below its 1978 level in 1982. The slow growth of *coal production* in eastern Europe in 1980, and its absolute contraction by more than 3 per cent in 1981 (mainly due to the fall in Poland) and decreasing Soviet production in three consecutive years (1979–1981) had a similar effect, since total coal production in the region in 1981 fell almost 3 per cent (56 million tons) below its 1978 level. Finally, although *electricity production* did not actually decline in either eastern Europe or the Soviet Union, it also acted to some extent as a constraining factor; in 1981, output virtually stagnated in eastern Europe and grew by a historically low rate of 2.5 per cent in the Soviet Union. In several individual years of the period, output fell in some countries, and occasional electricity shortages were accompanied by temporary black-outs in some areas.

Taking into account these facts, it is clear why the annual plans for 1983 and other economic policy measures placed special emphasis on these critical sectors. The official statistical data and estimates in table 3.1.7 show that these measures yielded results. *Crude steel production* increased by a substantial 3.9 per cent in the Soviet Union in 1983 and by an estimated 1.5 per cent in eastern Europe; in the region as a whole the increase was about 3.6 per cent (just under 8 million tons). This almost fully made good the drop recorded in the three previous years. A similar improvement took place in the production of *rolled ferrous metals*. In the Soviet Union, a 4 per cent rise in 1983 not only fully offset the decline in the four previous years but brought output to a record level of 107

TABLE 3.1.7

**Selected energy sources and raw materials**
*(Annual percentage change)*

| | Bulgaria | Czechoslovakia | German Democratic Republic | Hungary | Poland | Romania | Eastern Europe | Soviet Union | Eastern Europe and the Soviet Union |
|---|---|---|---|---|---|---|---|---|---|
| Steel (crude) | | | | | | | | | |
| 1979 | | 3.3 | 0.6 | 0.8 | 0.8 | 9.3 | 1.0 | −1.5 | −0.8 |
| 1980 . . . . . . . . . | 0.4 | 2.7 | 4.1 | −3.7 | −3.7 | 2.3 | 1.7 | −0.8 | — |
| 1981 . . . . . . . . . | −3.2 | 0.7 | 2.2 | −3.2 | −3.2 | −11.5 | −6.6 | 0.3 | −1.7 |
| 1982 . . . . . . . . . | 4.0 | −2.0 | 4.0 | 1.6 | 1.6 | — | −2.5* | −0.9 | −1.4* |
| 1983 . . . . . . . . . | . . | 0.2 | . | −2.3 | . . | −3.1 | 1.5* | 3.9 | 3.6* |
| Rolled ferrous metals | | | | | | | | | |
| 1979 . . . . . . . . . | 3.3 | | 3.3 | 1.6 | 0.7 | 5.6 | 1.9 | −2.1 | −0.9 |
| 1980 . . . . . . . . . | 3.2 | | 1.6 | −6.1 | 1.3 | −2.1 | — | −0.3 | −0.2 |
| 1981 . . . . . . . . . | 4.1 | | | 7.5 | −17.9 | 2.2 | −5.4 | 0.1 | −1.7 |
| 1982 . . . . . . . . . | −2.9 | 1.9 | | 1.3 | . . | −2.1 | −2.1 | −0.6 | −1.1 |
| 1983 | | 0.8 | | 1.1 | . . | . . | —* | 4.0 | 3.2* |
| Electricity | | | | | | | | | |
| 1979 . . . . . . . . . | 3.2 | | 0.9 | −4.1 | 1.6 | 1.1 | 0.8 | 3.0 | 2.5 |
| 1980 . . . . . . . . . | 7.1 | 6.8 | 2.0 | 2.6 | 3.7 | 3.5 | 3.7 | 4.5 | 4.3 |
| 1981 . . . . . . . . . | 6.3 | 1.1 | 1.9 | 1.7 | −5.7 | 4.3 | 0.3 | 2.5 | 1.9 |
| 1982 . . . . . . . . . | 8.5 | 1.6 | 2.2 | 0.8 | 2.3 | −1.7 | 3.0 | 3.1 | 3.0 |
| 1983 . . . . . . . . . | 6.1 | 2.0 | 2.0 | 4.1 | 6.9 | 1.9 | 4.6* | 3 | 3.8* |
| Coal (total) | | | | | | | | | |
| 1979 . . . . . . . . . | 9.3 | 1.2 | 1.1 | 0.4 | 2.4 | 11.9 | 2.3 | −1.0 | 0.7 |
| 1980 . . . . . . . . . | 7.1 | −1.3 | 0.8 | 0.2 | −3.8 | 7.3 | 0.6 | −0.7 | −0.7 |
| 1981 . . . . . . . . . | −3.1 | 0.2 | 3.3 | 0.9 | −13.7 | 4.8 | −3.2 | −2.3 | −2.8 |
| 1982 . . . . . . . . . | 10.3 | 1.5 | 3.5 | 0.8 | 14.2 | −16.2 | 13.6 | 1.5 | 8.0 |
| 1983 . | | 2.2 | 0.7 | −3.3 | 2.9 | 19.8 | 3.8* | −0.3 | 1.3* |
| Oil | | | | | | | | | |
| 1979 | | | | −7.8 | −25.0 | −10.0 | . . | 2.5 | |
| 1980 | | | | 0.2 | | 8.9 | | 3.0 | |
| 1981 | | | | 0.3 | | 0.9 | | 0.9 | |
| 1982 | | | | 0.1 | | [illegible] | | [illegible] | |
| 1983 | | | | 1.2 | | 0.9 | | [illegible] | |

*Source*: As for table 3.1.1

million tons – almost 1.5 per cent above the previous peak in 1978. Provided that rolled ferrous metals output in eastern Europe increased only slightly or remained constant, Soviet performance would have compensated for the previous fall in supply for the region as a whole.

Following the slowdown described above, *electricity production* expanded strongly in 1982 and 1983 in both eastern Europe (by 3 and 4.6 per cent respectively) and in the Soviet Union (some 3 per cent in both years). At the same time, *coal output* in the region substantially increased in 1982 (by a full 8 per cent). It then rose by a further 1 per cent in 1983 thanks mainly to the strong recovery in Polish and Romanian coal production. Finally, the Soviet Union, which is the main supplier of crude oil to all countries of the region, continued to expand production at virtually the rate envisaged by its five-year plan (0.7 per cent in the first three years of the current quinquennium). Thus it appears that previous bottlenecks recorded in the material inputs mentioned and in the energy supply were eased – a fact which had a fairly strong stimulating effect not only on the industrial sector but also on overall economic development and NMP growth in all the countries.

Moreover, the positive effects of more abundant material and energy inputs were not limited to the supply side. On the *demand* side too measures were implemented which significantly affected material input requirements: the rigid application of lower state norms for energy and raw material inputs per unit of output; the substitution of certain costly inputs by cheaper alternatives; the replacement of oil-fired electricity generators in eastern Europe by energy sources based on indigenous coal and atomic plants; and the implementation of price increases for some material inputs and energy in several countries. All the countries concerned did in fact achieve significant economies either in volume or value terms which were referred to in the official reports on economic development in 1983. As they mostly cover industry, a more detailed presentation is deferred to section 3.1(iii) below. For an analysis of general developments, it is enough to draw attention to the importance of the improved supply both of energy and material inputs, as well as to their more rational use, in explaining the recovery in economic growth. It is also worthy of note that the results attained vary from one country to another and that in all countries the results achieved are lagging behind those expected. This has led to calls for further progress in the same direction.

### (iii) Foreign economic relations

The centrally planned economies of eastern Europe and the Soviet Union aimed to achieve several major objectives in the area of foreign economic relations in 1982–1983. The *first* was to provide for a more buoyant growth of foreign trade turnover than in 1981 relative to the rates of growth of domestic demand or NMP growth. The *second* was to expand exports faster than imports in order to reduce trade deficits and possibly earn surpluses. A *third* objective was to strengthen foreign trade ties within the CMEA through special target-oriented programmes agreed upon several years ago and recently reaffirmed, and also by increasing direct co-operation between the ministries, associations and large enterprises concerned. *Fourth*, an attempt would be made to adjust foreign trade relations with developed countries and to expand trade with the developing countries in order to create surpluses on both trade and current account with both groups – a necessity if debt servicing and repayment commitments were to be met. *Fifth*, and finally, further growth of the chronic trade deficits of most of the east European countries with the Soviet Union was to be checked and a better balance of intra-CMEA economic relations in general was to be achieved. Tables 3.1.8, 3.1.9 and 3.1.10 support the assessment that the foreign economic relations adjustment process was rather fast – particularly for some east European countries.

#### (a) *Foreign trade turnover*

In *value* terms, there has been a significant recovery in the foreign trade of eastern Europe and the Soviet Union taken together in recent years (table 3.1.8). In fact, after the sharp drop in the growth rates of foreign trade turnover (exports plus imports) from some 15 per cent in 1980 to less than 1 per cent in 1981, a rise of almost 2 per cent occurred in 1982 and of a further 4 per cent in 1983. Thus the foreign trade of the seven centrally planned economies of the European region expanded markedly at a time when world trade contracted, and continued to expand even more strongly when world trade was still in the early stage of its initial recovery. ECE secretariat estimates suggest that in 1983 the growth of their foreign trade turnover in *volume* terms (some 5 per cent) exceeded that of NMP growth (about 3–4 per cent).

Country performance within the region followed similar directions in eastern Europe, but developed differently in the Soviet Union. East European foreign trade turnover contracted in both 1981 and 1982 but growth recovered to 4 per cent (in current US dollars) in 1983. Meanwhile, the foreign trade turnover of the Soviet Union, which also slowed down substantially in 1980 though by much less than in eastern Europe, rose sharply – by almost 8 per cent – in 1982 but by a more moderate 4 per cent in 1983. Annual changes in the foreign trade turnover of individual east European countries varied considerably, ranging from a substantial positive growth rate (German Democratic Republic) to substantial drops (Poland and Romania) in 1982. However, in 1983 such variations diminished noticeably, though in Hungary and Romania foreign trade turnover contracted further in value terms.

#### (b) *Exports and imports*

Another important characteristic of recent changes in the foreign trade of the region was the faster growth of exports relative to imports. In 1982–1983, this was the case in both eastern Europe and in the Soviet Union. Consequently, the export-to-import ratio for the region – which fluctuated between about 96–98 per cent before 1979 and about 101–102 per cent in the next three years – rose in 1982–1983 to some 110 per cent. In eastern Europe as a whole, where it ranged from 90 to 97 per cent in 1978–1981, the turnround came about in 1982; the export/import ratio climbed to 106 per cent and improved slightly also in 1983. Again, annual changes in exports, imports and export/import ratios of the individual east European countries varied substantially. However, the direction of change was the same in all. In 1982 and 1983, for the first time after many years, the export/import ratios of almost all the east European countries but Bulgaria exceeded 100 per cent, ranging from 101 per cent in Czechoslovakia to a very high 133 per cent in Romania in 1983.

#### (c) *Regional orientation of foreign trade*

As shown in table 3.1.9, a gradual reorientation of the regional structure of foreign trade toward intra-CMEA exchanges has been taking place over 1979–1981 in value

TABLE 3.1.8

### Foreign trade of Eastern Europe and the Soviet Union

(*Annual percentage change and ratios in current dollars*)

| | Bulgaria | Czechoslovakia | German Democratic Republic | Hungary | Poland | Romania | Eastern Europe | Soviet Union | Eastern Europe and the Soviet Union |
|---|---|---|---|---|---|---|---|---|---|
| Foreign trade turnover | | | | | | | | | |
| 1977 | 15.8 | 14.4 | 7.3 | 17.9 | 8.0 | 14.8 | 11.7 | 14.4 | 12.8 |
| 1978 | 18.3 | 13.5 | 5.6 | 15.9 | 9.6 | 20.6 | 12.4 | 19.8 | 15.6 |
| 1979 | 15.2 | 12.9 | 12.4 | 16.3 | 14.6 | 21.9 | 15.0 | 18.8 | 16.7 |
| 1980 | 15.4 | 9.7 | 16.4 | 7.1 | 7.0 | 19.2 | 12.2 | 18.4 | 15.0 |
| 1981 | 7.2 | −1.8 | 10.0 | 0.6 | −20.3 | −9.9 | −3.1 | 5.2 | 0.8 |
| 1982 | 6.9 | 5.1 | 4.8 | −1.0 | −25.5 | −16.8 | −4.0 | 7.9 | 1.8 |
| 1983 | 5.8 | 5.9 | 8.8 | −2.2 | 2.8 | −4.3 | 4.1 | 3.8 | 4.0 |
| Exports | | | | | | | | | |
| 1977 | 18.1 | 13.8 | 5.8 | 18.0 | 11.3 | 14.4 | 112.3 | 21.6 | 16.4 |
| 1978 | 17.4 | 14.4 | 10.3 | 9.2 | 12.2 | 14.7 | 12.8 | 15.9 | 14.2 |
| 1979 | 18.9 | 12.3 | 13.5 | 24.9 | 17.7 | 20.8 | 17.1 | 23.6 | 20.1 |
| 1980 | 17.2 | 13.1 | 14.9 | 8.5 | 5.0 | 17.3 | 12.2 | 18.2 | 15.1 |
| 1981 | 3.0 | −0.1 | 14.7 | 1.4 | −21.9 | −1.9 | −1.2 | 3.8 | 1.2 |
| 1982 | 7.0 | 4.9 | 9.5 | 1.4 | −15.6 | −9.5 | 0.4 | 9.5 | 5.0 |
| 1983 | 6.1 | 5.8 | 8.5 | −0.9 | 3.1 | −0.4 | 4.6 | 4.6 | 4.7 |
| Imports | | | | | | | | | |
| 1977 | 13.6 | 14.8 | 8.6 | 17.8 | 5.4 | 15.1 | 11.1 | 7.3 | 9.5 |
| 1978 | 19.2 | 12.8 | 1.7 | 21.8 | 7.4 | 26.5 | 12.1 | 24.1 | 17.0 |
| 1979 | 11.7 | 13.3 | 11.3 | 9.4 | 11.8 | 22.9 | 13.1 | 13.9 | 13.5 |
| 1980 | 13.6 | 6.6 | 17.7 | 5.8 | 8.9 | 20.9 | 12.2 | 18.6 | 15.0 |
| 1981 | 11.7 | −3.4 | 5.8 | −0.2 | −18.8 | −16.8 | −4.8 | 6.8 | 0.3 |
| 1982 | 6.8 | 5.4 | 0.1 | −3.3 | −34.0 | −24.2 | −8.2 | 6.2 | −1.4 |
| 1983 | 5.4 | 6.0 | 9.2 | −3.5 | 2.4 | −8.9 | 3.5 | 2.7 | 3.1 |
| Export/Import ratios | | | | | | | | | |
| 1977 | 99.4 | 92.1 | 83.9 | 89.3 | 83.9 | 100.0 | 89.5 | 110.5 | 98.0 |
| 1978 | 97.8 | 93.4 | 91.4 | 80.0 | 87.7 | 90.7 | 90.1 | 103.2 | 95.8 |
| 1979 | 104.1 | 92.6 | 92.9 | 91.3 | 92.4 | 89.1 | 93.3 | 112.0 | 101.4 |
| 1980 | 107.5 | 98.3 | 90.7 | 93.7 | 89.0 | 86.4 | 93.2 | 111.6 | 101.4 |
| 1981 | 99.0 | 101.6 | 98.4 | 95.3 | 85.6 | 101.8 | 96.7 | 108.5 | 102.3 |
| 1982 | 99.1 | 101.2 | 107.7 | 99.9 | 109.5 | 121.6 | 105.9 | 112.0 | 109.0 |
| 1983 | 99.7 | 101.0 | 107.0 | 102.5 | 110.2 | 132.9 | 107.1 | 114.2 | 110.7 |

*Source* As for table 4.3.7

TABLE 3.1.9

### Foreign trade turnover of Eastern Europe and the Soviet Union by selected regions

(*Annual percentage change in current dollar terms*)

| | Bulgaria | Czechoslovakia | German Democratic Republic | Hungary | Poland | Romania | Eastern Europe | Soviet Union | Eastern Europe and the Soviet Union |
|---|---|---|---|---|---|---|---|---|---|
| With developed market economies | | | | | | | | | |
| 1977 | 0.3 | 11.2 | −10.1 | 16.3 | −1.4 | 8.3 | 1.8 | 2.9 | 2.3 |
| 1978 | 16.9 | 11.5 | 1.1 | 21.8 | 4.9 | 28.8 | 11.5 | 13.5 | 12.4 |
| 1979 | 38.5 | 20.2 | 28.5 | 17.3 | 9.6 | 23.0 | 19.5 | 35.9 | 27.0 |
| 1980 | 27.3 | 14.7 | 22.9 | 11.7 | 7.4 | 8.6 | 13.5 | 23.9 | 18.6 |
| 1981 | 8.7 | −11.1 | 14.1 | −4.6 | −33.0 | −10.1 | −9.1 | 1.0 | −4.0 |
| 1982 | −10.4 | −7.5 | 3.6 | −6.7 | −18.8 | −29.1 | −10.6 | 5.7 | −1.9 |
| 1983 | −8.7 | −4.0 | 9.9 | −0.8 | −1.5 | −19.9 | −1.3 | −1.8 | −1.6 |
| With developing economies | | | | | | | | | |
| 1977 | 27.3 | 31.9 | 14.9 | 23.2 | 15.8 | 13.6 | 19.5 | 30.4 | 25.2 |
| 1978 | 15.6 | 1.9 | 11.7 | 10.6 | 8.2 | 15.6 | 10.8 | 10.8 | 10.8 |
| 1979 | 17.8 | 8.3 | 12.7 | 17.1 | 41.2 | 45.9 | 28.0 | 15.2 | 21.0 |
| 1980 | 36.5 | 22.5 | 36.4 | 19.9 | 29.2 | 45.4 | 34.2 | 27.5 | 30.7 |
| 1981 | 34.0 | — | −11.3 | −0.1 | −27.5 | 4.9 | −1.6 | 24.0 | 11.4 |
| 1982 | 13.0 | −6.0 | 23.6 | 14.2 | −14.1 | −15.4 | −2.8 | 1.7 | 0.3 |
| 1983 | −12.8 | 6.5 | 13.0 | 8.0 | 3.9 | −7.3 | −0.3 | 6.4 | 3.6 |
| With European CMEA countries | | | | | | | | | |
| 1977 | 18.1 | 14.2 | 13.8 | 17.1 | 14.4 | 22.8 | 15.7 | 17.8 | 16.4 |
| 1978 | 17.6 | 14.9 | 6.6 | 12.7 | 12.1 | 12.5 | 12.2 | 25.2 | 16.9 |
| 1979 | 11.8 | 10.4 | 7.2 | 16.0 | 14.3 | 9.3 | 11.1 | 11.0 | 11.0 |
| 1980 | 11.0 | 6.7 | 11.2 | 1.9 | 4.1 | 15.6 | 8.1 | 12.2 | 9.7 |
| 1981 | 3.7 | 0.5 | 11.1 | 3.6 | −10.5 | −18.1 | −0.1 | 2.5 | 0.9 |
| 1982 | 10.8 | 9.5 | 4.3 | — | −32.4 | −7.1 | −1.6 | 10.3 | 3.2 |
| 1983 | 11.5 | 8.6 | 9.4 | −5.6 | 6.1 | 10.2 | 7.8 | 9.2 | 8.4 |

*Source* As for table 4.3.7

TABLE 3.1.10

**Foreign trade balances of Eastern Europe and the Soviet Union by selected regions**
(*Billion US dollars or roubles*)

| | Eastern Europe | Soviet Union | Eastern Europe and the Soviet Union |
|---|---|---|---|
| Total (billion US dollars) | | | |
| 1978 | −6.6 | 1.6 | −5.0 |
| 1979 | −5.1 | 6.9 | 1.8 |
| 1980 | −5.8 | 8.0 | 2.2 |
| 1981 | −2.6 | 6.2 | 3.6 |
| 1982 | 4.4 | 9.3 | 13.7 |
| 1983[a] | 5.5* | 11.4* | 16.9* |
| With developed market economies (billion US dollars) | | | |
| 1978 | −6.4 | −3.3 | −9.7 |
| 1979 | −5.4 | −1.1 | −6.6 |
| 1980 | −3.8 | 0.2 | −3.6 |
| 1981 | −2.9 | −1.2 | −4.1 |
| 1982 | 1.3 | −0.1 | 1.2 |
| 1983[a] | 2.6* | −0.1* | 2.6* |
| With developing countries (billion US dollars) | | | |
| 1978 | 1.0 | 4.2 | 5.2 |
| 1979 | 0.4 | 4.7 | 5.1 |
| 1980 | −0.4 | 2.7 | 2.3 |
| 1981 | 3.4 | 1.2 | 4.6 |
| 1982 | 3.9 | 4.8 | 8.7 |
| 1983[a] | 3.7* | 5.7* | 9.3* |
| With the Soviet Union (billion roubles) | | | |
| 1978 | −1.4 | .. | .. |
| 1979 | −0.6 | .. | .. |
| 1980 | −1.3 | .. | .. |
| 1981 | −2.3 | .. | .. |
| 1982 | −1.1 | .. | .. |
| 1983[a] | −1.0 | .. | .. |

*Source* As for table 4.3.7
[a] Preliminary estimates

terms. Ranking the annual growth rates of aggregate foreign trade turnover of the seven countries concerned up to 1981 produces three interesting patterns, each of which indicates movements in different directions (chart 3.1.5). After 1981, however, all the indicators move in the same direction. Hence, the aggregate foreign trade turnover of eastern Europe and the Soviet Union with the developed market economies contracted since 1981, though at declining growth rates. The growth rate of foreign trade turnover with the developing countries declined substantially in 1980, remained at 11 per cent in 1981, fell to almost zero in 1982 and then jumped to more than 3 per cent in 1983. Finally, the intra-CMEA trade of the seven countries recorded relatively stable growth rates up to 1980 and fell abruptly to less than 1 per cent in 1981, but the growth rate more than tripled in 1982 and doubled again in 1983. The cumulative changes resulting from this reorientation of intra-regional trade were also reflected in the respective shares of their foreign trade (chart 3.1.6). Changes in the regional orientation of foreign trade turnover in eastern Europe on one hand and the Soviet Union on the other moved in the same direction - though there were some changes in the ranking of growth rates of trade with the developing and developed countries respectively in the trade of eastern Europe. Changes in the regional orientation of individual east European countries' trade differed in magnitude and timing, but generally they followed the same direction.

Finally, it should be stressed that all the changes described above are expressed in value terms and as such reflect in part rather different rates of price change in the intra-CMEA market on one hand and in the world market on the other hand. In 1982–1983, in particular, intra-CMEA trade prices rose by some 6–10 per cent annually, while world market prices declined. Hence, changes in the regional orientation of foreign trade of the centrally planned economies of eastern Europe and the Soviet Union in volume terms do not necessarily coincide with those expressed in value terms. In fact, the more detailed analysis of foreign trade developments in chapter 4 below indicates that, in volume terms, the foreign trade of eastern Europe and the Soviet Union in 1983 has increased faster with developed and developing countries than within CMEA.

### (d) *Foreign trade balances*

Continuous improvements in the trade balances of most east European countries and the Soviet Union have taken place in recent years. It should be appreciated that in 1978, at the beginning of the review period, the region as a whole ran a net aggregate trade deficit of some $5 billion at current prices. This consisted of a deficit with the developed market economies of roughly twice this figure, offset by a trade surplus of roughly $5 billion with the developing countries. A further roughly $2 billion deficit was recorded by the six east European countries with the Soviet Union. The figures presented in table 3.1.10 show that continuous changes both in the total trade balances of the countries concerned and in their main components have taken place since 1979.

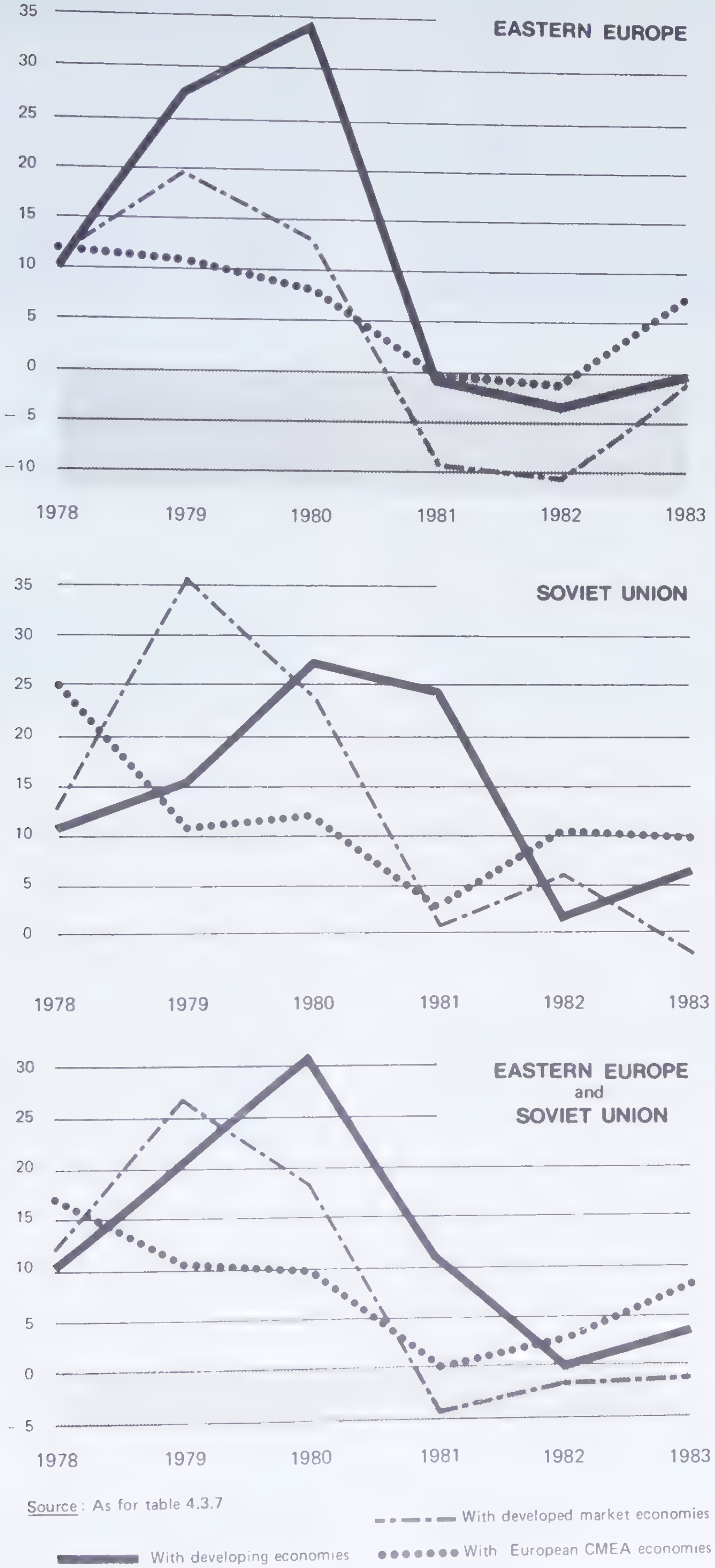
After reaching the historically rather high $6.6 billion deficit in 1978, the *total trade balance* of the east European countries (apart from a single fluctuation in 1980) improved continuously in all subsequent years. It was transformed into an initial surplus of more than $4 billion in 1982, a performance which improved further to $5–6 billion in 1983. At the same time, the moderate Soviet trade surplus of some $1.6 billion in 1978 has, with only one drop in 1981, increased consistently – to an estimated level of more than $11 billion in 1983. These developments had interesting consequences for the growth and allocation of resources for domestic use (sub-section (iv) below). They were not only in line with the strategies laid down in the overall policies of the centrally planned economies concerned, but also confirm the ability of the countries concerned to undertake drastic adjustments over a relatively short period. Indeed, if the first oil price shock is taken as a starting point for the adjustment process on a world scale, it can be argued that though the adjustment effort in eastern Europe lagged initially and was muted subsequently, after 1980 it proceeded very fast and rather strongly.

Similar changes occurred in the *trade balances with the developed market economies*. In fact, both eastern Europe and the Soviet Union had significant deficits in trade with this group of countries in 1978 ($6.4 and $3.3 billion respectively) – a total of almost $10 billion for all seven countries combined. However, the trade balance of eastern Europe continuously improved after that year bringing about an initial surplus of $1.3 billion in 1982 and twice that in 1983 ($2.6 billion). Throughout eastern Europe each country's annual changes moved in the same direction and were very strong. The direction of change in the Soviet Union, in contrast, varied year by year. The deficit decreased in 1979 and in 1980 and a moderate surplus in Soviet trade with the developed market economies was achieved. However, the trade balance moved in the opposite direction in 1981, when a $1 billion trade deficit was recorded. A further turnaround in 1982 brought about

CHART 3.1.5

FOREIGN TRADE TURNOVER BY SELECTED REGIONS

(Annual percentage change in current dollar terms)

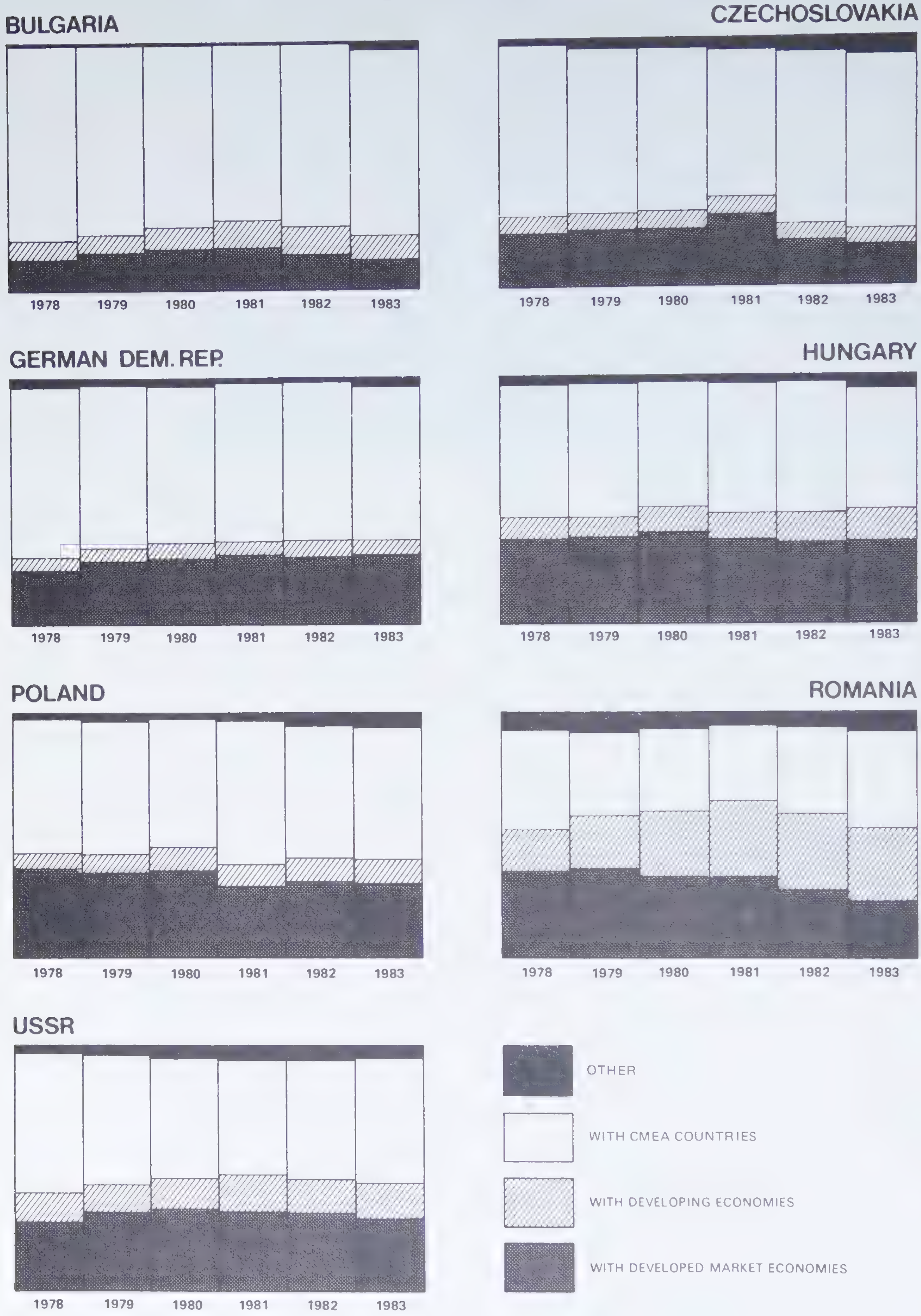


Source: As for table 4.3.7

CHART 3.1.6

FOREIGN TRADE TURNOVER DISTRIBUTION BY MAIN REGIONS

(Percentage shares)



virtual balance in Soviet trade with the developed market economies and the situation appears to have remained unchanged in 1983. Hence, it is important to note that the trade surplus of the seven countries of the region with the developed market economies in fact originates in the east European trade surplus with this group of countries. However, it should be kept in mind that falling world oil prices led to a marked deterioration of the Soviet terms of trade with the developed market economies in 1982–1983, reversing a contrary trend in a number of previous years.

Changes in the *trade balances* of the seven countries of the region *with the developing countries* were less pronounced than the accompanying changes in their total trade balances with either the world or with the developed market economies presented above. However, changes did take place, and even altered direction in recent years, in both eastern Europe and the Soviet Union. In 1978, the beginning of the review period, the six east European countries recorded a trade surplus with the developing countries of almost $1 billion while the Soviet Union recorded a surplus of more than $4 billion in the same year. The east European trade balance with the developing countries deteriorated over the next two years, and even over the next three years in the case of the Soviet Union. In 1980, eastern Europe recorded a small trade deficit with the developing countries of some $0.4 billion – mostly due to rising oil-prices. However the direction of change was reversed as early as 1981 for eastern Europe and by 1982 for the Soviet Union. The turnround was rather strong in the former case, the annual change in the trade balance amounting to almost $4 billion.

Significant changes also occurred in recent years in the *intra-CMEA trade balances* of the seven countries of the region. As in many previous years, the six east European countries as a whole regularly recorded deficits in their trade with the Soviet Union. Here again, however, developments were not uniform. While the trade deficit of the six east European countries with the Soviet Union in 1978 at 1.4 billion roubles was roughly equivalent to its five-year average level over 1976–1980 (1.5 billion roubles), it more than halved in 1979. However, it then reverted to its previous level in 1980, jumping thereafter to the much higher level of almost 2.3 billion roubles in 1981. Given that the east European countries recorded substantial improvements in their trade balances with the developed and developing market economies during that period, it could be argued that the adjustments made in their foreign trade sector in 1980–1981 were oriented mainly to the convertible-currency area. However, by 1982 the six east European countries had more than halved their aggregate deficit on trade with the Soviet Union. No further reduction occurred in 1983, probably in consequence of higher import demand as growth picked up in that year. The need for further adjustment was clearly expressed at the 37th session of the CMEA in Berlin during October 1983.[172]

A fuller analysis of changes in trade balances in total and by individual country of the region is presented in chapter 4. To end this sub-section it is enough to mention that in 1983, all the east European countries but Bulgaria, which ran a negligible deficit, recorded overall trade surpluses. Probably all of them had positive trade balances with the developing countries, and the German Democratic Republic and Poland maintained, while Romania increased, their existing surpluses in trade with the developed market economies. The other three countries still had negative trade balances with the latter area. Finally, all countries of eastern Europe but Hungary continued to record deficits in their trade with the Soviet Union.

### (iv) Resources for domestic use

The availability of resources for domestic use (net material product used for domestic consumption and accumulation – usually referred to as *NMP used*) in eastern Europe and the Soviet Union reflects the volume and pace of growth of NMP produced, and also changes in the balance of trade in material goods and material services together with changes in the level of losses which occur between production and final use of NMP. Taking into account the changes in NMP produced and the developments in foreign economic relations discussed in previous sub-sections, a conclusion may be drawn concerning changes in the volume of resources for domestic consumption and accumulation on one hand, and their allocation on the other (table 3.1.11).

A feature common to all centrally planned economies concerned in recent years has been the slowdown in the annual growth rates in the *volume of resources* for domestic use. Indeed, with only a few exceptions in some years, this trend has prevailed in most countries ever since 1979. Only in *Bulgaria* did the growth of resources for domestic use accelerate, and then not after 1981; they grew at a substantially slower rate in 1982, and probably also in 1983 (for which year no figure had been reported at the time of writing). With some year-to-year variations, the growth of resources for domestic use decelerated in the *German Democratic Republic* and *Czechoslovakia* in 1979–1982 (an absolute contraction was recorded in one year in the former country and in two years in the latter). The slowdown was more pronounced in *Hungary*, where an absolute decline was recorded in four out of the last five years. A very sharp contraction was registered in *Poland*, where the level of resources for domestic use in 1982 stood almost 30 per cent lower than in 1978. Growth rates of resources for domestic use were most stable in the *Soviet Union*, but even so there was a gradual slowdown. The first significant upward changes in growth occurred in 1983 in the German Democratic Republic, and Poland, where the four-year decline was finally reversed.

In general, changes in the volume of resources for domestic use broadly parallelled the movements in NMP produced presented above in sub-section (i). At the same time, resources for domestic use in all reporting countries concerned[173] grew more slowly than NMP produced, with only a few exceptions for some countries in individual years. In most countries, the difference between trends of the two aggregates can be attributed to the swing toward trade surpluses in recent years, which arose from the shifting of a proportion of NMP produced to net exports. However, in some countries, losses during storage or transportation between production and consumption centres also played a role. This is particularly true for the Soviet Union, the large size of which creates special problems in the collection, storage and use of agricultural products, though losses in transport occur throughout the region for some industrial products (coal, timber, artificial fertilizer, etc.).

With regard to the *allocation of resources for domestic use*,

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[172] This was stated in the speech of the Prime Minister of the Soviet Union, N.A. Tikhonov: "We assume that, when determining the volumes structures and proportions of mutual deliveries during the process of co-ordinating plans, the planning and foreign trade organs of our countries take as a starting point the need for a more consistent observance of the principle of mutual benefit and the attainment of balanced trade and payments relations": *Pravda*, 19 October 1983, p.2.

[173] Romania does not publish this indicator except in the form of five-year averages

### TABLE 3.1.11

### NMP produced and NMP used

(*Annual percentage change*)

| Country and period | NMP produced (1) | NMP used[a] (2) | Consumption | | | Accumulation | | |
|---|---|---|---|---|---|---|---|---|
| | | | Total (3) | Personal[b] (4) | Social[c] (5) | Total (6) | Net fixed capital formation (7) | Changes in stocks (8) |
| *Bulgaria* | | | | | | | | |
| 1976–1980 | 6.1 | 2.8 | 4.0 | 4.2 | . . | 0.1 | 2.4 | 5.3 |
| 1979 | 6.6 | 3.5 | 3.0 | 2.9 | . . | 5.0 | . . | . . |
| 1980 | 5.7 | 5.1 | 3.6 | 4.0 | 22.2 | 9.5 | −42.6 | 459.3 |
| 1981 | 5.0 | 7.7 | 5.3 | 4.9 | 7.1 | 14.8 | . . | . . |
| 1982 | 4.2 | 1.9 | 3.7 | 3.6 | . . | −3.3 | . . | . . |
| 1983 | 3.0* | . . | . . | . . | . . | . . | . . | . . |
| *Czechoslovakia* | | | | | | | | |
| 1976–1980 | 3.7 | 2.2 | 2.5 | 1.7 | 4.8 | 0.9 | 0.4 | 2.6 |
| 1979 | 3.1 | 1.1 | 0.9 | −0.6 | 4.8 | 1.8 | −8.5 | 101.7 |
| 1980 | 2.9 | 2.7 | 1.0 | −0.1 | 3.7 | 8.2 | 5.9 | 12.6 |
| 1981 | −0.1 | −3.4 | 2.6 | 1.7 | 4.9 | −21.7 | 11.1 | −83.5 |
| 1982 | 0.2 | −1.5 | −1.1 | −2.3 | 1.8 | −3.4 | −25.3 | 275.6 |
| 1983 | 2.2 | . . | 2.4* | 2 | 3.3 | . . | . . | . . |
| *German Dem. Rep.* | | | | | | | | |
| 1976–1980 | 4.2 | 3.7 | 3.8 | 3.9 | 3.1 | 3.6 | 3.4 | −6.7 |
| 1979 | 4.0 | 1.6 | 3.3 | 4.1 | 0.6 | −5.4 | . . | . . |
| 1980 | 4.4 | 4.9 | 3.0 | 3.4 | −1.2 | 12.5 | . . | . . |
| 1981 | 4.8 | 1.2 | 2.6 | 2.7 | 2.1 | −3.4 | . . | . . |
| 1982 | 2.5 | −3.2 | 1.3 | 1.4 | 1.3 | −20.1 | . . | . . |
| 1983 | 4.4 | 3.5* | 1.0* | 1.0* | 1.0* | 15.3* | . . | . . |
| *Hungary* | | | | | | | | |
| 1976–1980 | 3.2 | 1.9 | 3.1 | 2.7 | . . | −2.0 | −2.0 | . . |
| 1979 | 1.9 | −5.6 | 2.9 | 2.4 | . . | −24.9 | 3.7 | . . |
| 1980 | −0.8 | −1.9 | 1.1 | 0.8 | . . | −11.3 | −9.8 | . . |
| 1981 | 2.5 | 0.7 | 3.0 | 2.9 | 2.6 | −8.6 | −18.4 | 64.4 |
| 1982 | 2.6 | −1.1 | 1.4 | 1.0 | 2.1 | −12.4 | −12.9 | −10.6 |
| 1983 | 0–0.5 | −(2–3) | — | — | — | −20 | . . | . . |
| *Poland* | | | | | | | | |
| 1976–1980 | 1.2 | −0.2 | 4.5 | 4.4 | 5.2 | −11.8 | −9.2 | −29.0 |
| 1979 | −2.3 | −3.7 | 3.1 | 3.2 | 2.4 | −19.2 | −15.4 | −39.5 |
| 1980 | −6.0 | −6.0 | 2.1 | 2.3 | 1.2 | −29.6 | −25.4 | −61.3 |
| 1981 | −12.0 | −10.5 | −4.6 | 0.5 | −2.6 | −27.6 | −24.2 | −69.5 |
| 1982 | −5.5 | −10.5 | −11.5 | −15.0 | . . | −6.6 | −19.9 | 400.0 |
| 1983 | 4–5 | 3–4 | 2* | 2–3 | — | . . | 4 | . . |
| *Soviet Union* | | | | | | | | |
| 1976–1980 | 4.3 | 3.8 | 4.5* | . . | . . | 1.6* | . . | . . |
| 1979 | 2.2 | 2.0 | 2.8* | . . | . . | −3.3* | . . | . . |
| 1980 | 3.9 | 3.9 | 5.7* | . . | . . | −1.6* | . . | . . |
| 1981 | 3.3 | 3.2 | 4.0 | . . | . . | 0.9 | . . | . . |
| 1982 | 4 | 3.5 | 1.2 | . . | . . | 11.0 | . . | . . |
| 1983 | 4* | 3.1 | . . | . . | . . | . . | . . | . . |

*Sources:* As for table 3.1.1.

[a] NMP used for net capital formation and consumption

[b] Volume of consumer goods supplied to the population.

[c] Consumption of material goods in institutions providing amenities and social welfare services.

table 3.1.11 highlights three features. First, *total consumption* in all the centrally planned economies of the region in general rose slightly or substantially faster than accumulation in 1976–1980. In recent years, however, this trend has not been uniform: while it clearly continued in Hungary and, to a lesser extent, in Czechoslovakia, it was halted in the German Democratic Republic and the Soviet Union in 1983. In Bulgaria, on the other hand, accumulation rose faster than total consumption in all the years of the period reviewed except 1983. In Poland, consumption declined less than accumulation. Altogether it seems that the slower growth of total consumption relative to total resources for domestic use in three out of the six reporting countries in 1983 was linked with the trends in investment activity discussed above.

A second conclusion concerning the allocation of resources for domestic use touches on the *allocation of resources for consumption*. In the past, there has been a tendency to let *social consumption* (expenditures on health, education, culture, pensions, child care, etc.) rise faster than *personal* (i.e. *private*) consumption. In recent years, this has occurred to only a limited extent or not at all, though the general principle remains unquestioned. In fact, since benefits from the social consumption fund (with the exception of pensions) are, in principle, accessible on an equal basis to all citizens, and its utilization has tended to rise rapidly, it has been found that resources for such purposes are limited and have to be carefully husbanded. At the same time, when such benefits pass a certain level, they may compromise the incentive character of work – and performance-related incomes. Hence, the growth rates of personal consumption and total consumption were virtually the same in Bulgaria, the German Democratic Republic, Hungary and Poland in 1976–1980. The only reporting country in which social consumption rose substantially faster than total consumption over the period was Czechoslovakia and possibly, though to a lesser extent, the Soviet Union. This pattern of allocating resources for consumption persisted in recent years. In fact, in most countries, the growth rates of personal consumption and total consumption were very close, while in the German Democratic Republic and Poland the former slightly outran the latter in several recent years. In Czechoslovakia, however, the growth of personal consumption has lagged substantially behind total consumption.

Third, it is worth noting that the size and dimension of changes in *accumulation* in both eastern Europe and the Soviet Union in recent years have been volatile, though a deceleration in the trend clearly prevailed in all reporting countries but Bulgaria. This may be a quite normal phenomenon, since net capital formation, in principle, is more susceptible to downward changes in national output than consumption. At the same time, it also resulted from a deliberate reorientation undertaken by the countries concerned to preserve overall living standards as much as possible, even at the expense of accumulation (investment). However, as shown in sub-section (ii), this reorientation was subject to definite limits, since decelerating or – as in eastern Europe – falling levels of investment may have affected overall economic growth. It is thus not surprising that in 1983 there was a substantial upward shift in the growth of accumulation expenditures in four out of the six reporting countries.

Finally, it should be pointed out that Bulgaria is the only country that has not recorded any contraction in the level of accumulation up to 1982. In contrast, accumulation in Czechoslovakia an the Soviet Union fell in two recent years and in three years in the German Democratic Republic. In Hungary and Poland, accumulation contracted even in 1976–1980 and has continued to do so ever since in Hungary. A modest resumption of accumulation was registered in Poland in 1983. The level of net capital formation in Poland in 1982 was only slightly more than 22 per cent of its level in 1978, and in Hungary in 1983 it was about 42 per cent of the 1978 level. Currently available data do not permit any reliable assessment to be made of the allocation of accumulation to net fixed capital formation and changes in stocks.

### (v) Main policy objectives for 1984

Annual plans for 1984 in most centrally planned economies of the European region contain less quantitative data than usual while many targets are in fact formulated in qualitative terms only.[174] Although it is thus quite difficult to give a comprehensive assessment of plans for 1984, available data (tables 3.1.1 and 3.1.12 and charts 3.1.1 and 3.1.2) provide material which enable the main policy objectives to be summarized as follows.

Overall economic growth in the region as a whole is expected to continue at roughly the rate recorded in 1983. Following a 3.4 per cent growth rate in 1983, total *NMP produced* in eastern Europe based on an aggregation of the six countries' individual targets is expected to increase slightly faster than in 1983 (by some 3.9 per cent). As usual, the Soviet NMP target (3.1 per cent) is expressed in terms of *NMP used* for domestic consumption and accumulation; the target is exactly the same as actual growth in 1983. If the relationship between NMP produced and NMP used for domestic consumption and accumulation recorded in recent years persists, overall Soviet economic growth in terms of NMP produced would be higher than 3.1 per cent. Other figures reported in the Soviet annual plan for 1984 suggest an estimate of about 3.6 per cent. On this assumption overall NMP growth in the Soviet Union and eastern Europe taken together would be about 3.7 per cent – virtually the same as in 1983 (3.8 per cent).

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[174] A short review of the annual plans of all the member-countries of the CMEA – including those of the ECE region – is given in *Ekonomicheskaya gazeta*, no.3, January 1984, p.20.

TABLE 3.1.12

**Selected indicators of annual plans for 1984**

*(Annual percentage change)*

| | Bulgaria | Czecho-slovakia | German Democratic Republic | Hungary | Poland | Romania | Soviet Union | Byelorussian SSR | Ukrainian SSR |
|---|---|---|---|---|---|---|---|---|---|
| Net material product . . . . | 3.8 | 3.0[a] | 4.4 | 1.5–2.0 | 2.6 | 7.3 | 3.1[b] | 3.9 | 3.4 |
| Agriculture (gross product) . . | 3.4 | —* | 0.6[c] | 3.4–4.1 | 1.5–2.0 | 5.4–6.0 | 6.4 | 3.4 | 1.8 |
| Industry (gross product) . . . | 5.0 | 2.9 | 3.6 | 1.5–2.0 | 4.5 | 6.7 | 3.8 | 4.1 | 3.1 |
| Construction . . . . . . . | 3.9 | .. | 2.1 | –(2–3) | .. | .. | .. | .. | .. |
| Employment in material sphere . . . . . | .. | .. | 0.2* | .. | .. | .. | .. | . | .. |
| Labour productivity . . . . | 4.0 | 2.6 | 4.2* | .. | .. | 8 | .. | .. | .. |
| Gross investment . . . . . | 8.1 | — | 4.3* | –(8–9) | –2.8 | 4.0 | 3.9 | .. | .. |
| Gross incremental capital output ratio . . . . . . | .. | 5.1* | .. | .. | .. | .. | .. | .. | .. |
| Foreign trade turnover . . . | 8.1 | 7* | 5.0 | 5–6* | .. | 13.8 | 10[d] | | .. |
| Exports . . . . . . . | .. | .. | .. | 5–6* | 12.3 | .. | .. | . | .. |
| Imports . . . . . . . | .. | .. | .. | — | 14.8 | .. | .. | .. | .. |
| Real incomes per capita . . . | 2.5 | 1.6[e] | 2.2[e] | — | 1–2* | .. | 3.5 | 3.5 | 2.8 |
| Retail trade turnover . . . . | 4.2[e] | 1.9[e] | 2.2[e] | 0.1 | 7.2 | 3.0[e] | 5.4[e] | .. | 5.3[e] |

*Source* As for table 3.1.1.

[a] Gross national income (material sphere). Growth rate for NMP is 2.8 per cent

[b] NMP used for domestic consumption and accumulation

[c] Agriculture and food industry

[d] Trade with socialist countries only

[e] Nominal

The overall growth performance expected for 1984 reflects the changes expected in the *main sectors of the material sphere. Gross industrial output* growth in the Soviet Union in 1984 is expected to be similar to the outcome for 1983 (3.8 per cent and 4 per cent respectively), as also in the six east European countries taken together (4.3 and 4.6 per cent respectively). This implies an expansion of aggregate gross industrial output in the centrally planned economies of some 4 per cent in 1984 compared with 4.2 per cent in 1983. Following the attainment of two successive 5 per cent growth rates in 1982 and 1983, Soviet *agricultural output* is expected to grow further – by more than 6 per cent in 1984. Expectations in eastern Europe are more moderate, suggesting an aggregate growth of less than 3 per cent. In the region as a whole, gross agricultural production might thus increase by about 5 per cent, rather faster than the 3 per cent registered in 1983. No data are available for estimating the planned aggregate growth in other sectors.

Information on other aspects of economic policy in 1984 is rather scarce. Some reported figures and qualitative statements made either in the annual plan documents for 1984 or in the reports accompanying them, however, enable a few common points to be discerned. *Foreign trade* is expected to expand faster than overall economic activity in all countries in 1983. In the six east European countries, this evidently implies a faster growth of exports than of imports, as further improvements in the foreign balances in all of them rank among the most important policy objectives. This is not necessarily the case in the Soviet Union. Intra-CMEA trade is scheduled to grow faster than the total trade of all the countries concerned, but trade with developed market economies and developing contries is also expected to expand – particularly with the latter group in most countries. Second, due to the expected faster growth of exports than imports, *resources for domestic use* (NMP used for domestic consumption and accumulation) will probably continue to grow at slower rates than NMP produced. Third, figures reported on real incomes per capita suggest that *total consumption* will increase more slowly than NMP produced in all countries but the Soviet Union and that it will stagnate in some countries. Though this may imply that accumulation will grow faster than total consumption in most countries concerned, the aggregate growth rate envisaged for gross investment (an estimated 3 per cent) compared with the growth rate of aggregate NMP (almost 4 per cent) does not support this. Nonetheless, the above estimates may imply that trade surpluses are expected to expand in both absolute and relative terms and, consequently, that the discrepancy between NMP produced and resources for domestic use may be larger than in 1983. Finally, *gross investment* is expected to grow more slowly in 1984 than in 1983 (some 3 per cent as against 4 per cent respectively). Taking into account the substantial upward movement of actual investment growth in 1983 as compared with the plans for that year, the possibility of a more buoyant growth of investment should not be excluded.

The annual plan for 1984 of *Bulgaria*[175] lays down a 3.8 per cent NMP growth rate – virtually the same as the average rate envisaged in the current five-year plan of the country. If achieved, this will indicate the first upward change in NMP growth since 1979, and at the same time bring Bulgaria very close to fulfilment of the 3.7 per cent average annual growth rate planned for 1981–1985. Taking into account the fact that the envisaged growth rate of gross industrial output set for 1984 is very similar to that attained in 1983 (5 per cent and 4.6 per cent respectively), it seems that the main sectors contributing to the acceleration in the growth of national output are to be industry and agriculture, gross output of which is expected to increase by 5 per cent and 3.4 per cent respectively. As agricultural output in 1983 contracted by some 7 per cent (more than ll per cent in NMP terms), this growth rate seems to be quite attainable and hence also the NMP goal. The 4 per cent planned growth of labour productivity indicates that the entire NMP increment of Bulgaria is to be provided by more efficient use of the available labour force employed in the material sphere. The slight contraction in employment in the material sphere should make possible some increase in employment in the non-material sphere. The plan also calls for more efficient use of all material inputs and fixed assets, though the estimated investment growth of some 8 per cent above the previous year's growth target may imply a further decline in capital productivity. Expanding investment – together with slower growth of resources for domestic use than of NMP produced – indicates that consumption may grow more slowly than either NMP or net capital formation. Within the 2.5 per cent growth in real income, consumption financed through the social consumption funds will grow faster – by 3.3 per cent, which implies that private consumption should increase somewhat slower than real incomes.

In *Czechoslovakia* the annual plan for 1984[176] foresees NMP growth of 2.8 per cent (3 per cent in gross national income terms) – which is higher than envisaged by the current five-year plan (1.2–2.2 per cent in terms of NMP and 2–2.6 per cent in terms of gross national income). Taking into account the acceleration in NMP growth in 1982–1983, this growth rate seems to be attainable. At the same time, it can be also seen as challenging, since it is supposed to be achieved mostly by the expansion of industrial production while gross agricultural output is expected to stagnate. Furthermore, it is to be achieved with the same volume of investment as in 1983; since this was itself roughly at the level of 1981, substantially better utilization of existing potential is implied, as emphasized in the presentation of the annual plan for 1984. On the demand side, preference will be given to the foreign sector, and almost 50 per cent of the increment in national output is earmarked for improving the balance of payments – including the repayments of foreign credit and interest. Accordingly, domestic demand (NMP used for domestic consumption and accumulation) should grow markedly slower than NMP produced. Judging by the stagnation of investment, domestic consumption will increase faster than accumulation (net capital formation), while within total consumption, and in line with tendencies recorded in previous years, resources for social consumption will grow faster than those for personal (private) consumption (2.8 per cent and 1.5 per cent respectively).

After the significant upswing of growth in 1983, NMP in the *German Democratic Republic* in 1984[177] is expected to expand at the same rate – 4.4 per cent. Taking into account the growth rates envisaged by the plan for gross industrial production (3.6 per cent), the agriculture and food industry complex (0.6 per cent) and construction (2.1 per cent), it is evident that overall economic growth will depend on further substantial cuts in the material intensity of national output; only in this way can the growth of net national output outstrip the growth of gross national output. The plan also calls for a noteworthy growth of labour productivity (around 4.2 per cent), which would provide some 95 per cent of the NMP increment in the country. Foreign trade turnover growth of 5 per cent suggests, if reported in volume terms, that the foreign trade sector is to be given priority also in the German Democratic Republic. Since at the same time real incomes per capita are expected to grow by 2.2 per cent (compared with the 4.4 per cent growth target for NMP produced) this suggests that exports might grow faster than imports and, accordingly, that resources for domestic use will rise markedly more slowly than overall national output.

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[175] *Rabotnichesko delo*, 1 October, 1983.

[176] *Rudé právo*, 24 November, 1983.

[177] *Neues Deutschland*, 9 December 1983.

Very few quantitative indicators were given in the annual plan of *Hungary* for 1984.[178] Those which were reported indicate that NMP produced will grow by 1.5–2 per cent. The main sectoral contributions would be industry (1.5–2 per cent growth of gross production) and agriculture (a 3–4 per cent growth of gross output). Construction output is expected to contract by 2–3 per cent. According to the official report, the main task of economic activity in 1984 – as in the previous years – will be to improve the balance of the national economy, to maintain international solvency and to maintain living standards. As in other east European countries, this strategy implies a stronger orientation in favour of the foreign sector than of domestic demand, and also faster growth of exports than of imports. It is stated that imports should remain constant and that exports should expand sufficiently to obtain a $200–300 million increase in the convertible currency surplus and similar gains in rouble trade. Taking into account the effects of such changes on the allocation of national output, a 1–2 per cent drop in domestic absorption is envisaged. Within total resources for domestic use, accumulation is planned to decline by 15 per cent, and gross investments are expected to contract by a further 8–9 per cent. Real incomes per capita are expected to remain at the level of previous years.

Economic developments in *Poland*[179] in 1984 are likely to reflect the complex internal and external conditions of economic growth. In fact, the internal imbalances accumulated over many years will require either buoyant investment to help remove the bottlenecks which have constrained economic growth in several recent years, or large imports to ease shortages of many domestically produced material inputs and consumer goods. In the short run, however, none of these solutions seem viable. Gross investment – which contracted by some 45 percentage points in 1979–1982 and increased for the first time in 1983 – is expected to contract again by some 3 per cent in 1984. This means that the structural imbalances will persist into 1984 too. The huge external debt and – in spite of a partial rescheduling of payments due in 1980–1983 – a heavy debt servicing burden, combined with economic sanctions imposed by some western countries since 1981 and the unavailability of new net borrowing, make achievement of the needed volume of imports almost impossible. Hence, it seems that in the case of Poland there is a specific vicious circle of unfavourable external and internal conditions. Unless this circle is broken, the recovery of the Polish economy will require quite some time.

Against the background of the conditions described, the Polish annual plan for 1984 envisaged a 2.6 per cent growth of NMP. This is a clear sign that expansion cannot be sustained at the rate recorded in the previous year (4–5 per cent). Gross industrial production is expected to grow by 4.5 per cent and gross agricultural output by 1.5–2 per cent. The foreign sector will need to take up the bulk of the increment in national output, exports being expected to increase by some 12 per cent in value terms. A 15 per cent increase in the value of imports is considered necessary mainly to boost production for exports. The expected trade surplus will be used mainly for debt servicing. Resources for domestic use will grow slower than NMP produced. Real incomes per capita are, nevertheless, expected to grow by some 1–2 per cent. Since they contracted by 18 per cent in 1982, this may also represent a step toward the normalization of both the economic and overall socio-political situation in the country.

The economic growth rate bottomed out in 1981, and following an upward change in 1982–1983, the annual plan of *Romania* for 1984[180] envisages a substantial 7.3 per cent increase in NMP. This growth rate is in line with the average annual rate envisaged by the current five-year plan (7.1 per cent). It is, however, quite challenging if compared with the growth rates attained in the two previous years (2.6 per cent and 3.4 per cent respectively). Taking into acount that NMP growth at this rate would have to be achieved in company with smaller growth rates of gross industrial and gross agricultural production (6.7 and 5.7 per cent respectively), it is clear that the annual plan of Romania for 1984 presupposes important savings in material inputs and hence a much faster growth of net industrial and net agricultural output (9.9 per cent and 8.8 per cent respectively). The plan also foresees faster growth of labour productivity (to 8 per cent) relative to NMP, which implies some contraction in material sphere employment. At the same time, the incremental capital-output ratio (ICOR) is expected to contract, as the 7.3 per cent rise in NMP will be accompanied by only a 4 per cent increase in gross investment. A large share of the increment in national output will need to be directed to the foreign sector. Trade turnover is to expand by almost 14 per cent. As at the same time one quarter of external debt is expected to be repaid in 1984, this would require exports to grow substantially faster than imports. Only in this way will it be possible to obtain the expected trade and current account surplus for which the country is aiming in 1984. Resources for domestic use will, accordingly, expand more slowly than NMP produced and the same should be true for total domestic consumption.

Economic developments expected in the *Soviet Union* in 1984 have been referred to several times already and therefore only the major objectives of the annual plan[181] for that year will be mentioned in this sub-section. NMP used for domestic consumption in 1984 is expected to increase by 3.1 per cent, as was the case in the previous year. The 6.4 per cent growth envisaged for gross agricultural output, the 3.8 per cent growth target for gross industrial production and also the ambitious goals laid down for reducing material inputs per unit of output all suggest that NMP produced is expected to expand faster than NMP used for domestic consumption and accumulation. Explicit requirements for a further increase in factor productivity provide for the more efficient use of fixed assets. Labour productivity growth is required to provide for 97 per cent of the total increment in the national output. As gross investments are expected to contract slightly[182] and real incomes per capita to expand by 3.5 per cent, the whole increment of NMP in 1984 should be attributed to consumption.

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[178] *Népszabadság*, 28 December 1983

[179] Initial guidelines for the 1984 central annual plan of Poland were published in *Trybuna Ludu*, 29–30 October 1983. A final set of plan targets was published some two months later – see *Rzeczpospolita*, 6 January 1984 This followed an extensive public debate which resulted in significant revisions of the preliminary targets. A prominent role in this debate was played by the Economic Advisory Council (Konsultacyjna Rada Gospodarcza), which elaborated a detailed analysis and critique of the initial plan guidelines. See "Uwagi do založen centralnego planu rocznego na 1984 rok" (Considerations on the Guidelines for the Central Annual Plan for 1984"), *Žycie Gospodarcze*, No.49, 4 December 1984 and also the summary by the Chairman of the Council, Prof. C. Bobrowski in *Žycie Gospodarcze*, No.51–52, 18–25 December 1983.

[180] *Scinteia*, 16 December 1983

[181] *Pravda*, 29 December 1983

In the *Byelorussian Soviet Socialist Republic*, NMP produced increased at the very high rate of 7 per cent in 1983, almost twice as much as envisaged by the annual plan for the year (3.8 per cent). Thanks to this expansion, the average annual NMP growth rate in 1981–1983 (4.7 per cent) was above that envisaged by the annual plans for the same years (4.0 per cent) and also above the average NMP growth target retained in the current five-year plan (4.3 per cent). Taking into account the fact that the gross industrial production of Byelorussia grew on average by 4.9 per cent in 1981–1983 – markedly more than implied by the annual plans for the same years (3.9 per cent) and by almost as much as envisaged on average by the current five-year plan (5.1 per cent), NMP growth might have been even higher had not gross agricultural production increased below expectations. Indeed, gross agricultural output in the Republic in 1981–1983 grew on average by 5.8 per cent, as compared with an average growth rate more than twice as high envisaged in the annual plans for those years (13.3 per cent). Hence, in spite of an increase of more than 9 per cent in 1983, agricultural production tended to brake overall economic performance, as it did in the Soviet Union as a whole. The annual plan for 1984[183] foresees NMP growth of 3.9 per cent, virtually the same on average as expected in the current five-year plan. This is to be achieved by a 3.4 per cent growth of gross agricultural production and a 4.1 per cent growth of gross industrial output. The plan calls for increasing economies in material inputs and a broader utilization of secondary raw materials. The targets for labour productivity are particularly high. In fact, in both agriculture and industry, labour productivity growth rates (6.7 per cent and 4.3 per cent respectively) exceed those for the corresponding gross outputs (3.4 per cent and 4.1 per cent respectively). This should, among other things, form the basis for a 3.5 per cent increase in real incomes per capita and for the required growth of accumulation.

In the *Ukrainian Soviet Socialist Republic*, NMP produced increased by 4 per cent in 1983, more than laid down in the annual plan for that year (3 per cent). However, the average annual NMP growth rate in 1981–1983 (3.3 per cent) fell somewhat below that envisaged by the annual plans for the same years (3.5 per cent) and also below the average expected in the current five-year plan (3.6 per cent). Taking into account the fact that gross industrial production in the Ukraine in 1981–1983 grew on average by 3.3 per cent, i.e. virtually as fast as foreseen by the annual plans for the same years (3.4 per cent), the setback in NMP growth can be explained by rather disappointing agricultural output. In fact, gross agricultural production in the Ukraine expanded by 4.2 per cent on average in 1981–1983, while the annual plans for 1981 and 1983 only (no plan figure was reported for 1982) called for a rate more than twice as high as the actual average annual growth in the same period (8.9 per cent). Hence, in the Ukrainian SSR too, agricultural production held back the overall economic expansion of national output in the first three years of the current quinquennium. The annual plan of the Ukraine for 1984[184] foresees NMP growth of 3.4 per cent, virtually the same as the average five-year plan target for 1981–1985. Taking into account that such growth in net output is to be based on a 3.1 per cent increase in gross industrial production and a rise of only 1.8 per cent in gross agricultural production, it is clear that policy objectives for 1984 in the Ukrainian SSR include the achievement of important economies in all material inputs. At the same time, the plan requires further increases in labour productivity in all the main sectors of the material sphere – industry, agriculture, construction etc. This would provide room for an increase in per capita real incomes of 2.8 per cent and also for net capital formation on the scale necessary to ensure the investment growth provided for in the plan.

### (vi) Medium-term prospects

Taking into account the substantial changes in the trend of overall economic growth in the centrally planned economies of eastern Europe and the Soviet Union and also the evident uncertainties in overall international economic prospects which have persisted throughout the 1980s, any comprehensive assessment of medium-term development prospects of the countries concerned can only be very conditional. However, the analysis of recent changes in national output and foreign economic relations, of the factors underlying these changes and the policy objectives for 1984, clears the way for some tentative conclusions. Prospects might be assessed according to two different but complementary sets of criteria – first, by comparing actual performance with targets in annual and five-year plans, and second, by assessing potential development prospects beyond the scope of the period covered by the current five-year plans. Since the first approach is clearly easier than the second, it will be treated first.

Table 3.1.13 presents the basic data on which a first assessment of medium-term prospects for the east European countries and the Soviet Union can be based. Indeed, if the average annual NMP growth rates attained in 1981–1983 are combined with the NMP growth rates envisaged by the annual plans for 1984 and compared with the corresponding five-year targets for the current quinquennium, the resulting implicit NMP growth requirement for 1985 necessary to achieve the five-year NMP target may be considered a reasonable basis for assessing the medium-term prospects embodied in the five-year plans themselves. Following this approach, three tentative conclusions may be drawn. *First*, the 3.4 per cent average annual growth of NMP used for domestic consumption and accumulation envisaged by the five-year plan of the *Soviet Union* for 1981–1985 seems to be attainable, since the 3.9 per cent increase in the NMP used which would be required for 1985 is not out of reach. *Second*, for *eastern Europe* as a whole, the average annual 3.8 per cent growth of NMP implied by the five-year plans for 1981–1985 has already proved to be unattainable; to achieve this average annual growth rate, a 14 per cent growth in 1985 would be required – a rate which none of the six east European countries has ever achieved. *Third*, within eastern Europe, the prospects of individual countries for attaining the five-year NMP objectives differ substantially from each other. In fact, the achievement of the NMP five-year plan target is very probable in Bulgaria, since it would require a lower NMP growth rate in 1985 than the average in 1981–1983. The attainment of the five-year plan NMP

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[182] In fact, in the report on the annual plan for 1984 delivered by the Chairman of the State Planning Committee (Gosplan), N.K. Baibakov, a 3.9 per cent planned increase in investment for 1984 was reported. *Pravda*, 29 December 1983, p.5.

This growth rate was related to the *expected* level of investment in 1983. As investment in 1983 expanded to "more than 150 billion roubles", and the planned figure for investment in 1984 amounts to 149.6 billion roubles, this leads to the tentative conclusion that investments in the Soviet Union are, in fact, expected to decline by some 0.5 per cent in 1984

[183] *Sel'skaya gazeta*, 12 January 1984

[184] *Pravda Ukrainy*, 14 January 1984.

TABLE 3.1.13

**Growth of net material product produced**
(*Average annual percentage change*)

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1981 1983 | Plan 1984 | 1985 (Implicit)[a] | Plan 1981 1985 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bulgaria . . . . . . . . | 6.5 | 6.3 | 5.6 | 6.6 | 5.7 | 5.0 | 4.2 | 3.0 | 4.6 | 3.8 | 2.5 | 3.7 |
| Czechoslovakia . . . . . | 4.2 | 4.2 | 4.1 | 3.1 | 2.9 | −0.1 | 0.2 | 2.2 | 0.8 | 2.8* | 2.9–6.0 | 1.6–2.2 |
| German Dem. Rep. . . | 3.5 | 5.1 | 3.7 | 4.0 | 4.4 | 4.8 | 2.5 | 4.4 | 3.9 | 4.4 | 9.5 | 5.1 |
| Hungary . . . . . . . | 3.0 | 8.0 | 4.2 | 1.9 | −0.8 | 2.5 | 2.6 | 0–0.5 | 1.8 | 1.5–2.0 | 5.5–9.7 | 2.6–3.2 |
| Poland . . . . . . . . | 6.9 | 5.0 | 3.0 | −2.3 | −6.0 | −12.0 | −5.5 | 4.5 | −0.6 | 2.6 | 3.4[b] | 3.5[c] |
| Romania . . . . . . . | 11.3 | 8.7 | 7.4 | 6.2 | 2.9 | 2.2 | 2.6 | 3.4 | 2.6 | 7.3 | 21.6 | 7.1 |
| Eastern Europe . . . . | 6.2 | 5.8 | 4.3 | 2.1 | 0.1 | −1.8 | — | 3.4 | 0.5 | 3.9 | 14.2 | 3.8 |
| Soviet Union . . . . . | 5.9 | 4.6 | 5.1 | 2.2 | 3.9 | 3.2[d] | 3.5[d] | 3.1[d] | 3.3[d] | 3.1[d] | 3.9[d] | 3.4[d] |
| Byelorussian SSR . . . | 6.0 | 5.0 | 7.5 | 3.0 | 4.0 | 5.0 | 2.2 | 7 | 4.7 | 3.9 | 3.5 | 4.3 |
| Ukrainian SSR . . . | 5.9 | 4.6 | 4.4 | 0.5 | 1.6 | 2.7 | 3.5 | 4 | 3.4 | 3.4 | 4.6 | 3.6 |

*Source:* As for table 3.1.1.
[a] Implied by the average annual NMP five-year plan growth rate, NMP growth in 1981 1983 and the NMP annual growth rate planned for 1984
[b] Implied by the average annual NMP three-year plan growth rate, NMP growth rate in 1983 and the NMP annual growth rate planned for 1984.
[c] Three-year plan 1983–1985
[d] Net material product used for net capital formation and consumption.

objective is also possible in *Czechoslovakia* as far as the lower margin envisaged by the plan (1.6 per cent) is concerned, but out of reach with regard to the upper margin (2.2 per cent). Only if the annual plan for 1984 is substantially overfulfilled would it be possible to achieve the five-year NMP target in the *German Democratic Republic*. Both the lower and upper margins of the five-year average annual NMP growth rate planned by *Hungary* have proved unattainable. A quite impossible NMP growth rate of more than 21 per cent in 1985 would be necessary to achieve the planned average 7.1 per cent growth of NMP in Romania in 1981–1985. The assessment made in the *1981 Survey*[185] that the Romanian five-year NMP target was made on a rather optimistic scenario is thus now confirmed. For *Poland*, NMP growth envisaged by the three-year plan 1983–1985 seems to be attainable. This assessment is not, however, comparable with those made above because only one of the three years has passed, and also because even if the three-year plan target for NMP produced is fully attained, the volume of Polish NMP would remain below its 1976 level.

Assessment of the medium-term development prospects of the east European countries and the Soviet Union beyond the period covered by the current five-year plans is, as already mentioned, a much more demanding and perhaps impossible task. At all events, two main approaches can be applied. *First*, the assessment of medium-term prospects can be based on the extrapolation of trends recorded over a longer term period, which – according to statistical experience – should not be shorter than ten years. Taking into account the findings on recent changes in national output presented in sub-section (i) above, and also the medium-term development trends over 1976–1980 and in the 1970s as a whole in the *Economic Survey of Europe in 1981*, this approach would lead to the conclusion that the downward trend which prevailed in the late 1970s and at the beginning of the 1980s is likely to continue for some time. But this conclusion might easily be wrong, since – as shown in the analysis of recent developments presented in sub-section (i) above – there was a reversal of these trends in 1982–1983. *Second*, it seems that a more promising approach might rely on possible changes in the availability of factor inputs and potential changes in the overall efficiency with which they are used. Taking into account that the labour supply in the material sphere will continue to grow at declining rates, that material input supplies cannot expand substantially, that the consumption of these inputs per unit of output in most countries declines only slowly, and also that investment expansion will probably be small while capital productivity is not likely to improve substantially in the immediate future, it seems that, over the medium-term, no substantial acceleration in the overall economic growth of the centrally planned economies of eastern Europe and the Soviet Union can be expected. Since, at the same time, some important growth constraints appear to be easing following determined policy measures, there is perhaps reason not to expect any further substantial decline in the overall economic growth in the countries of the region. Altogether, the successive elimination of the least likely options leads to the conclusion that, with inevitable year-to-year fluctuations, overall economic developments in eastern Europe and the Soviet Union will tend to stabilise at around the growth rates attained in recent years. Lower relative foreign trade dependence suggests that this assessment might be more valid for the Soviet Union than for eastern Europe. The medium-term development prospects of the individual east European countries will, finally, depend on a wider range of both internal and external factors which may vary substantially over even the short run.

### (vii) Technical note on presentation and aggregation of NMP statistics

As mentioned at the beginning of this section, *net material product (NMP)* – or national income – is the usual measurement of national output in the material balance system of national accounting used by the centrally planned economies.[186] In fact, this is the measurement of national output *on the production side*, and can be defined as the difference between *gross social product (GSP)*[187] – the aggregate value of all produced goods and material services (including intermediate goods), in a given year – and all material costs (including depreciation charges); the two aggregates are in both cases measured at the level of economic units in the material sphere. Both economic literature and statistical practice alike in the countries concerned treat the NMP measure – usually referred to as *NMP produced* – as the main yardstick of national output.[188]

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[185] *Economic Survey of Europe in 1981*, p.161.

[186] See *Basic Principles of the System of Balances of the National Economy*, United Nations, "Studies in Methods", F. Series, No. 17, New York, 1971.

[187] In the Soviet sources published in English this is translated either as "gross product" (A. Anchishkin, *op. cit.*, p.245) or "aggregate social product" (M. Bunkina, *Socialist Economics Today*, Novosti Press Agency Publishing House, Moscow, 1981, p.32)

In the Soviet Union, five-year and annual plans set national output targets in terms of another indicator – net material product utilized for (domestic) consumption and accumulation (often referred to as *NMP used* or *NMP utilized*). This very fact creates a number of problems in assessing overall economic developments. Among them, three should be specially noted.

*First*, while *total* NMP used is a legitimate aggregate for measuring national output *on the final use side*, NMP used for *domestic consumption and accumulation* only is a partial measure since it excludes two items: the trade balance in goods and material services, and losses occurring between production and final use.

*Second*, and consequently, this measure, although applied in the Soviet Union in the preliminary reports on economic developments for a given year at or near the end of that year, is not as comprehensive a measure for the assessment of overall performance as is NMP produced. NMP produced and NMP used for domestic consumption and accumulation may, and usually do, differ in both level and growth rate terms.

*Third*, and finally, while data on NMP used for domestic consumption and accumulation may to some extent be used for the assessment of economic developments in the Soviet Union itself – at least as far as the implementation of both annual and five-year plans is concerned – they cannot be directly aggregated with data on national output in the east European centrally planned economies which are reported in terms of *NMP produced*. There are two possibilities for solving the problem: either to aggregate Soviet figures on *NMP used* with the data reported by the east European countries on *NMP produced* – which may bring about some distortion of real aggregate national output in the countries concerned; or to make a preliminary estimate of Soviet NMP produced at the beginning of the year when the *Economic Survey of Europe* is prepared, and before the publication of more complete information. The choice between the two solutions is not at all easy.

In most previous issues of the *Survey*, the first solution was applied. This works when the preliminary figures reported at the beginning of the year are substantially unchanged from those reported later, and when NMP used for domestic consumption and accumulation does not substantially differ from NMP produced. However, this has not been the case recently. As already mentioned in sub-section (i) above, preliminary figures on the performance of the Soviet economy in 1982 reported at the beginning of 1983 were substantially revised later. In addition the growth rate of NMP produced proved to be significantly higher than that of NMP used (4 per cent and 3.5 per cent respectively – an issue which has been discussed in more detail in sub-section (iv)). Hence, although the possibility of a substantial difference between NMP produced and NMP used was explicity mentioned in the analysis presented in the *Economic Survey of Europe in 1982*, the preliminary, relatively low 2.6 per cent growth figure for NMP used which was reported in the Soviet plan fulfilment report for 1982 (published in January 1983) was used as a substitute for the as yet unknown growth rate of NMP produced. On this basis, an assessment was made that the slowdown in economic growth which started in the second half of the 1970s persisted in the Soviet Union in 1982. Taking into account the very high weight of the Soviet Union in the NMP aggregate for the region, this pointed to a similar conclusion for eastern Europe and the Soviet Union taken together.

At the time of writing, in mid-February 1984 – when more or less final figures on 1982 NMP produced for all countries of the region were available – overall economic growth in eastern Europe and the Soviet Union in 1982 needed to be reassessed, as was done in sub-section (i) above. To avoid a repetition of the same distortion, this year, however, the second alternative solution has been applied and the growth of Soviet NMP produced in 1983 was estimated. But, while this solution may work better than the first alternative, applied in 1982 and in most previous years, it should be clearly understood that it also implies a considerable risk of error. For one, a direct estimation of the balance of trade at domestic prices – the valuation relevant for the present purpose – is not possible as trade data are published only in external values, and in any case at the time of writing were available only for the first three quarters of 1983. For another, no information at all is available at the time of writing on losses that occurred between production and final use in that year. The estimation of changes in NMP produced therefore had to rely on an indirect approach, using published information on the growth of social labour productivity and ECE secretariat estimates of the change in employment in the material sector outlined in sub-section (ii).[189] Thus, all statements based on the estimate of Soviet NMP produced should be read bearing in mind the above reservations. It should also be noted that the divergence in 1983 between the estimated growth of NMP produced and that of NMP used seems to be larger than in any year since 1978 (approximately 1 percentage point in both years). All assessments of the implementation of Soviet plans (annual and five-year) continued to be based on figures for NMP used, as published in plans and plan fulfilment reports.

A similar methodological problem concerning the measurement of national output in *Czechoslovakia* should be noted. Using published sources supplemented by direct communications by the competent Czechoslovak authorities to the ECE secretariat, the following facts have been established:

*First*, in addition to terms such as "national income" (identical to NMP produced) and "gross social product" (as defined above), two other concepts are frequently used in Czechoslovakia: *net national income* ("čisty národní důchod" or "národní důchod netto") and *gross national income* ("hrubý národní důchod" or "národní důchod brutto").

*Second* while "net national income" as understood in Czechoslovakia is in fact equal to national income (equivalent to NMP produced), "gross national income" is a different concept which can be defined in two ways – either as the difference between the gross social product and intermediate costs, or as the sum of national income (NMP produced) plus depreciation charges.[190] Hence, it differs from NMP produced, the main measurement of national output in the centrally planned economies. It is in fact identical to the *final*

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[188] Overall significance of the social product and national income have been recently analysed by academician M. Manescu: "The Social Product and National Income System", *Revue Roumaine des Sciences Sociales*, Serie des Sciences Economiques, Vol. 27, No. 1

[189] Following this approach, on the basis of the reported growth of social labour productivity in the Soviet Union in 1983 – 3.5 per cent (*Pravda*, 31 December 1983, p.1) – and the estimated annual change in employment in the material sphere of the country – some 0.5 per cent (table 3.1.2) – it was estimated that NMP produced in the Soviet Union increased by 4 per cent in 1983.

[190] The second definition was for example, recently referred to by K. Dyba and V. Kupka in "Přizpůsobení československi ekonomiky vnějším narazům" ("The Adaptation of the Czechoslovak Economy to External Shocks"), *Politicka ekonomie*, vol. XXXII, 1984, No. 1, p.48.

*social product*, which is also referred to from time to time in some countries of the region.[191]

*Third*, the five-year and annual plans in Czechoslovakia have used, at least since 1981, the *gross national income* (hruby národní duchod or národní duchod brutto) as the main development indicator. In contrast, the overall economic performance of the country – in both plan fulfilment reports which are usually published at the end of January each year and also in regular statistical publications – is reported in terms of *net national income* (NMP produced). This creates two problems. First, it is, strictly speaking, incorrect to aggregate plan figures for Czechoslovakia with plan figures for other east European countries and the Soviet Union. Second, it complicates the assessment of economic development in Czechoslovakia itself, and particularly that of the annual and five-year plans. In addition, the term "national income" is used in some official documents without any qualification, so that it is not always possible to identify which concept is referred to.

To clarify these issues, time series on both the planned and actual national output of Czechoslovakia since 1971 are presented in table 3.1.14 below. At the same time, aggregate five-year and annual plan targets for both eastern Europe, and eastern Europe plus the Soviet Union, have been revised to take acccount of Czechoslovak targets, translated into terms of NMP produced, rather than of gross national income.

TABLE 3.1.14

**National output of Czechoslovakia**
(*Annual percentage change*)

| | Gross national income[a] | | Net national income[b] (NMP produced) | |
|---|---|---|---|---|
| | Planned | Actual | Planned | Actual |
| 1971–1975 | 5.3 | 5.1 | 5.1 | 5.7 |
| 1976–1980 | 5.2 | 4.0 | 5.0 | 3.7 |
| 1981–1985 | 2.0–2.6 | . . | 1.6–2.2 | . . |
| 1971 | 5.4 | . . | 5.2 | 5.5 |
| 1972 | 5.1 | . . | 5.0 | 5.7 |
| 1973 | 5.3 | . . | 5.1 | 5.2 |
| 1974 | 5.5 | . . | 5.3 | 5.9 |
| 1975 | 5.8 | . . | 5.6 | 6.2 |
| 1976 | 5.3 | 4.6 | 5.0 | 4.2 |
| 1977 | 5.2 | 4.3 | 5.1 | 4.2 |
| 1978 | 4.9 | 4.5 | 4.6 | 4.1 |
| 1979 | 4.3 | 3.4 | 4.0 | 3.1 |
| 1980 | 3.7 | 3.3 | 3.5 | 2.9 |
| 1981 | 2.8 | 0.8 | 2.5 | –0.1 |
| 1982 | 0.5 | 0.6 | –0.2 | 0.2 |
| 1983 | 2.0 | 2.6 | 1.6 | 2.2 |
| 1984 | 3.0 | . . | 2.8 | . . |

*Source* National statistics, plan and plan fulfilment reports and direct communication to ECE

[a] Hrubý národni důchod

[b] Cisty národní důchod

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[191] See for example, A. Anchishkin, *op. cit.*, p.245; M. Bunkina, *op. cit.*, p.32.

## 3.2 AGRICULTURE

This section reviews recent developments in agricultural production and inputs, and also some policy innovations in eastern Europe and the Soviet Union. In sub-section (i) the growth of agricultural output and its structure is compared with developments in preceding years and with the five-year plan targets. Sub-section (ii) deals with factor inputs and efficiency in their use. In sub-section (iii) trends in crop production and fodder supplies are analysed. The main changes in livestock output are treated in sub-section (iv) and agricultural policies are described in sub-section (v). In sub-section (vi), the main targets for agricultural development in 1984 are summarized.

### (i) Growth of agricultural output

Gross agricultural output of the centrally planned economies of the region increased by some 3.3 per cent in 1983.[192] Growth was thus somewhat slower than in 1982 (4.2 per cent) and about half the 7.5 per cent aggregate growth rate implied by the combined output targets retained in the annual plans for 1983. The six east European countries (Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland and Romania), which taken together achieved a 2 per cent annual production growth in both 1981 and 1982, experienced a fall in 1983. Soviet agricultural output rose by 5 per cent in 1983 – about the same as in 1982 but only half the 10.5 per cent rate envisaged in the annual plan for 1983. Thus in 1983 the region as a whole did not achieve the expected rise in agricultural production (table 3.2.1 and chart 3.2.1). The contribution of agriculture to overall economic growth in the centrally planned economies of the region in 1983 was below expectations and, in the case of eastern Europe, it was even negative.

Weather conditions were more or less unfavourable in most countries, but were particularly severe in the central and southern part of the region. While spring weather was generally encouraging, a second consecutive hot and, for a long period, dry summer reduced the 1983 harvest of non-grain crops in most countries. Only Poland attained and even overfulfilled its plan target. Output also increased in Czechoslovakia and, as already noted, in the Soviet Union. But gross output in Bulgaria, the German Democratic Republic, Hungary and Romania fell below the 1982 level (table 3.2.1).

Comparison of performance during 1981–1983 with the current five-year plan targets shows that even record harvests in 1984 and 1985 would be unlikely to bring gross agricultural production in 1981–1985 to the levels planned for the period except, possibly, in Hungary (chart 3.2.2).

The structure of gross agricultural output changed in the desired direction in most countries 1983, but the improvement was only in part due to improved performance and did not generally take place at the higher level of production envisaged. The available information indicates that real progress in this respect may have been achieved only in Poland and the Soviet Union where a simultaneous increase took place in both the arable and livestock sectors, with considerably faster growth in the former than in the latter (table 3.2.1).

### (ii) Factor inputs and efficiency

#### (a) *Employment and land*

Agricultural employment during the last few years fell in Bulgaria, Romania, the Byelorussian SSR and the Ukrainian SSR. It remained fairly stable in Czechoslovakia, the German

TABLE 3.2.1

**Gross agricultural output**

| | Annual percentage change[a] | | | | Percentage share of total output | |
|---|---|---|---|---|---|---|
| | Total | | | | | |
| Country and period | Plan | Actual | Crop | Animal | Crop | Animal |
| *Bulgaria* | | | | | | |
| 1976–1980 . . . . . . . | 3.7 | 2.1 | 0.4 | 4.4 | 54.5 | 45.5 |
| 1980 . . . . . . . . . | 3.7 | −4.5 | −8.7 | 0.5 | 52.2 | 47.8 |
| 1981 . . . . . . . . . | 4.7 | 5.9 | 10.2 | 2.2 | 54.0 | 46.0 |
| 1982 . . . . . . . . . | 2.2 | 5.2 | 7.9 | 2.6 | 55.3 | 44.7 |
| 1983 . . . . . . . . . | 2.7 | −7.0 | −16.8 | 3.0 | 50.0* | 50.0* |
| 1984 . . . . . . . . . | 3.1 | . . | . . | | . | |
| 1981–1985 . . . . . . . | 3.4 | . . | . . | | . . | . . |
| *Czechoslovakia* | | | | | | |
| 1976–1980 . . . . . . . | 2.7–2.8 | 1.6 | 1.0 | 2.0 | 42.0 | 58.0 |
| 1980 . . . . . . . . . | 7.2 | 4.8 | 6.2 | 3.9 | 41.9 | 58.1 |
| 1981 . . . . . . . . . | 2.6 | −2.5 | −5.3 | −0.5 | 40.7 | 59.3 |
| 1982 . . . . . . . . . | 3.2 | 4.4 | 13.9 | −2.0 | 44.3 | 55.7 |
| 1983 . . . . . . . . . | 2.7 | 2.2 | −0.8 | 4.6 | 43.0 | 57.0 |
| 1984 . . . . . . . . . | — | . . | 5.2 | −3.9 | 45.2 | 54.8 |
| 1981–1985 . . . . . . . | 1.8–2.2 | . . | . . | . . | . . | . . |

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[192] Gross agricultural production represents the value of all material goods produced in the agricultural sector and is determined as the sum of gross output of all agricultural enterprises. It thus covers net production plus the value of all inputs from outside the enterprise. This definition is in line with that for gross social product; see *CMEA Statistical Yearbook 1982*, p.424.

TABLE 3.2.1 (*continued*)

| Country and period | Annual percentage change[a] | | | | Percentage share of total output | |
|---|---|---|---|---|---|---|
| | Total | | | | | |
| | Plan | Actual | Crop | Animal | Crop | Animal |
| *German Democratic Republic* | | | | | | |
| 1976–1980 | 2.6 | 1.3 | 0.1 | 2.0 | 40.3 | 59.7 |
| 1980 | 0.5[b] | — | −3.5 | 3.1 | 37.1 | 62.9 |
| 1981 | 0.8[b] | 2.1 | 1.8 | 1.7 | 37.0 | 63.0 |
| 1982 | 0.2[b] | −4.0 | 1.0 | −7.0 | 40.0 | 60.0 |
| 1983 | 1.0[b] | −2.5* | −6.3 | —* | 38.5* | 61.5* |
| 1984 | 0.6[b] | .. | 8.4 | 5.1 | 39.2* | 60.8* |
| 1981–1985 | 1.1 | .. | .. | .. | .. | .. |
| *Hungary* | | | | | | |
| 1976–1980 | 3.2–3.4 | 2.9 | 2.1 | 3.9 | 50.4 | 49.6 |
| 1980 | 5.0–5.5 | 4.3 | 7.0 | 1.5 | 49.6 | 50.4 |
| 1981 | 3.0 | 2.0 | 1.6 | 2.4 | 49.4 | 50.6 |
| 1982 | 4.0–4.5 | 7.3 | 9.4 | 5.3 | 50.4 | 49.6 |
| 1983 | 1.0–2.0 | −3 | −9.0 | 3.0 | 47.3* | 52.7* |
| 1984 | 3.4–4.1 | .. | 9.8 | 0.3* | 49.5* | 50.5* |
| 1981–1985 | 2.3–2.8 | .. | .. | .. | .. | .. |
| *Poland* | | | | | | |
| 1976–1980 | 3.0–3.5 | 0.5 | −0.5 | 1.7 | 54.2 | 45.8 |
| 1980 | 5.8 | −10.7 | −15.2 | −5.6 | 52.9 | 47.1 |
| 1981 | .. | 3.8 | 18.9 | 8.9 | 56.0 | 44.0 |
| 1982 | .. | 2.8 | 2.5 | 3.2 | 57.9 | 42.1 |
| 1983 | 1.5–2.4 | 3.6 | 6.0 | 1 | 59.1* | 40.9* |
| 1984 | 1.5–2.5 | .. | 1.4–2.4 | 1.5 | 59.0* | 41.0* |
| 1983–1985 | 2.0–3.8 | .. | .. | .. | .. | .. |
| Romania | | | | | | |
| 1976–1980 | 5.1–7.6 | 4.9 | 3.8 | 6.3 | 56.5 | 43.5 |
| 1980 | 4.7–6.0 | −4.1 | −6.1 | −2.2 | 55.1 | 44.9 |
| 1981 | 9.0[c] | −0.9 | 0.6 | −3.2 | 58.5 | 41.5 |
| 1982 | 6.8[c] | 7.5 | 13.6* | —* | 59.0* | 41.0* |
| 1983 | 5.1–5.6 | −2.0 | .. | .. | .. | .. |
| 1984 | 5.4–6.0 | .. | .. | .. | .. | .. |
| 1981–1985 | 4.5–5.0 | .. | .. | .. | .. | .. |
| *Soviet Union* | | | | | | |
| 1976–1980 | 3.0 | 1.7 | 1.9 | 1.6 | 45.8 | 54.2 |
| 1980 | 8.8 | −1.9 | −2.3 | −1.5 | 44.8 | 55.2 |
| 1981 | 11.9[d] | −1.0 | −2.5 | 0.1 | 44.1 | 55.9 |
| 1982 | 10.2[e] | 5.5 | 9.2 | 2.6 | 45.7 | 54.3 |
| 1983 | 10.5 | 5 | 6.9* | 3.5* | 46.5* | 53.5 |
| 1984 | 6.4 | .. | .. | .. | .. | .. |
| 1981–1985 | 2.5 | .. | .. | .. | .. | .. |
| *Byelorussian SSR* | | | | | | |
| 1976–1980 | 2.3 | 1.5 | 1.1 | 1.8 | 43.6 | 56.4 |
| 1980 | 10.1 | −10.0 | −21.4 | −1.1 | 39.0 | 61.0 |
| 1981 | 16.5[d] | 12.9 | 33.1 | −0.1 | 46.0 | 54.0 |
| 1982 | 9.3 | −4.2 | −15.5 | 5.3 | 40.6 | 59.4 |
| 1983 | 12.0 | 9.4 | | | | |
| 1984 | 3.4 | .. | .. | .. | .. | .. |
| 1981–1985 | 2.1 | .. | .. | .. | .. | .. |
| *Ukrainian SSR* | | | | | | |
| 1976–1980 | 2.5 | 1.6 | 1.4 | 1.7 | 48.8 | 51.2 |
| 1980 | 10.1 | −4.9 | −8.4 | −1.8 | 44.7 | 55.3 |
| 1981 | 16.5[d] | 0.8 | 1.8 | −0.1 | 45.2 | 54.8 |
| 1982 | .. | 6.9 | 13.7 | 1.3 | 48.1 | 51.9 |
| 1983 | 10.2 | 1.5 | | .. | .. | .. |
| 1984 | 1.8 | .. | | .. | .. | .. |
| 1981–1985 | 2.3 | .. | .. | .. | .. | .. |

*Sources:* National statistics; CMEA statistical yearbooks, plans and plan-fulfilment reports

[a] For five-year periods average annual percentage changes on the basis of previous five-year period total

[b] Net output including forestry and food processing industry; estimated planned growth in gross output of agriculture is 6.4 per cent, calculated on the basis of indicated planned growth in crop and animal production in 1984

[c] Net output

[d] Calculated on the basis of 1980 level reported

[e] Over average annual output in 1976–1980

## CHART 3.2.1

### GROSS AGRICULTURAL OUTPUT IN EASTERN EUROPE AND THE SOVIET UNION

(Annual percentage changes)

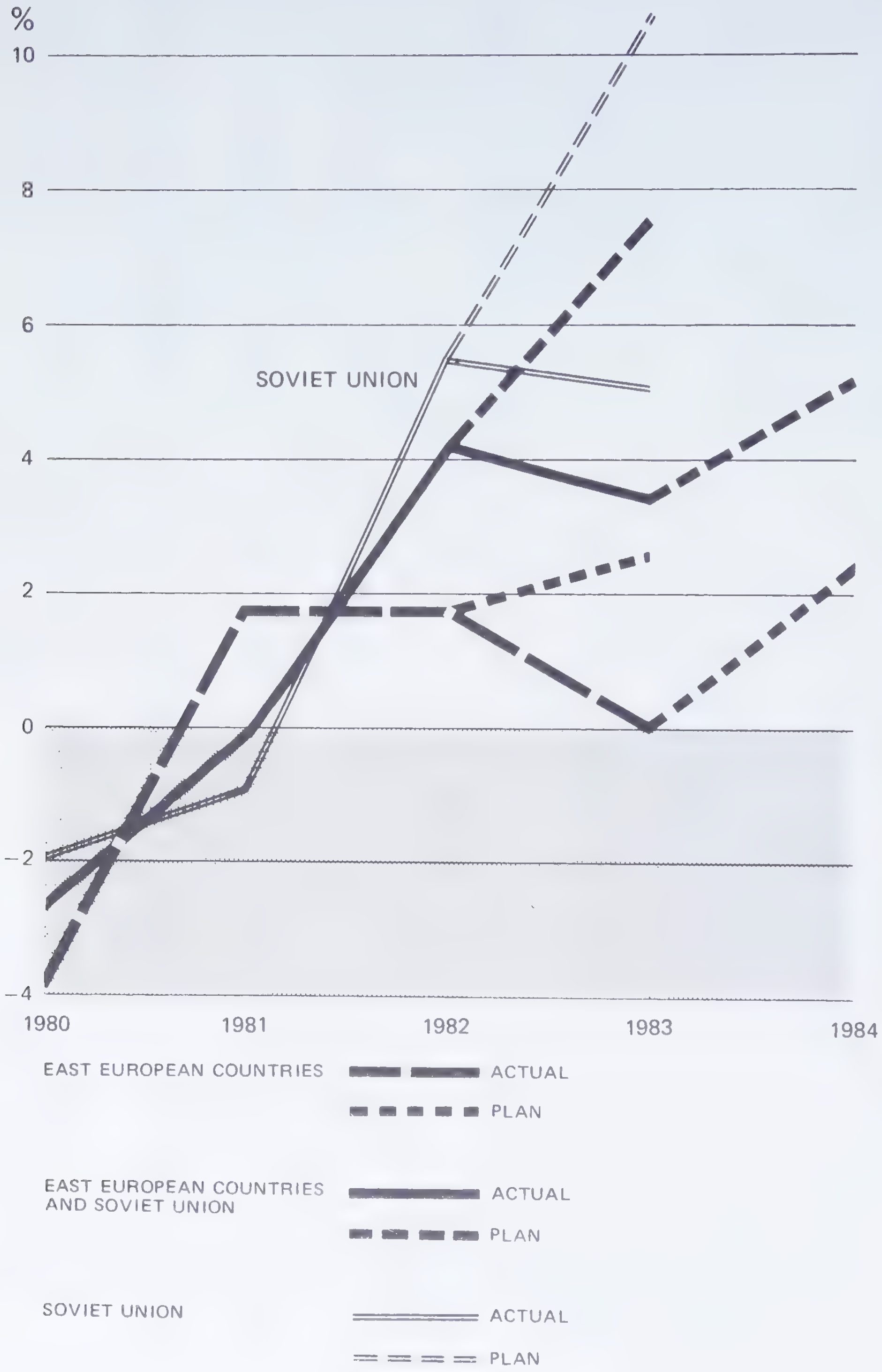
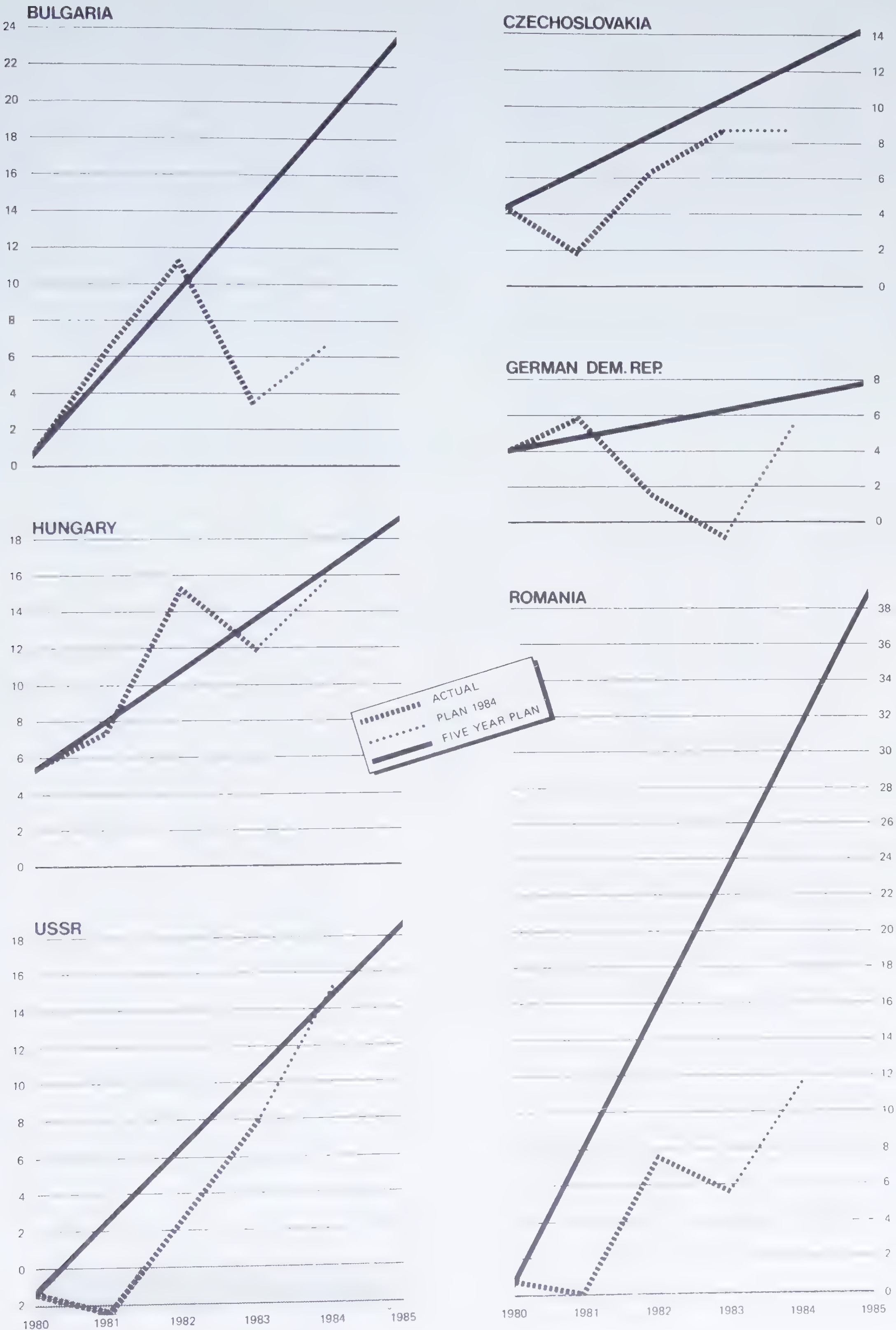


CHART 3.2.2

GROSS AGRICULTURAL OUTPUT IN 1981–1985 IN EAST EUROPEAN COUNTRIES AND THE SOVIET UNION
(indices 1976-1980 = 100)



Note: Five–year plan targets 1985 recalculated on the basis of planned growth of gross agricultural output 1981–1985 over 1976–1980

Democratic Republic and the Soviet Union as a whole (table 3.2.2). In Hungary, agricultural employment was nearly 5 per cent higher in 1982 than the 1976–1980 average. Although no precise data are yet available, there was probably a further slight increase in 1983 – probably due to a shift of employment from other sectors into the agricultural sector. The trend of agricultural employment in Bulgaria was probably unchanged in 1983 due to further increases in industrial employment and the retirement of some of the large number of aging agricultural workers. A similar phenomenon is occurring in Czechoslovakia and the German Democratic Republic, though both countries achieved some success in raising the share of younger age groups in total agricultural employment. The average age of the farm population also declined in Poland as the number of young people returning to farms continued to rise: the proportion of farmers less than 40 years of age has risen from 19 per cent in 1982 to 21 per cent in 1983, while the proportion of those over 60 has fallen from 27 per cent to 24 per cent in the same period.

No country in the region has significant reserves of unused arable land.[193] Hence, further population increases will need to be counterbalanced by more intensive use of the available area (table 2.2.3). This may involve some changes in land-use. In recent years, areas under grain have occupied a relatively stable share of arable land in most countries of the region, though there have been some small year-to-year fluctuations. The slight decrease in the Czechoslovak grain area in 1982 in favour of catch crops seems to have accelerated in 1983. Judging by the reported harvest volume and yields of grain, the intended expansion of the grain area in the German Democratic Republic did not take place in 1983. Grain areas also stayed constant in Hungary – although the total agricultural land area increased slightly in 1983, thus ending a long-term decline.[194] In Poland, a change in the opposite direction took place in 1983: the total area under grain, which expanded by more than 200,000 hectares in 1982, was reduced to the level of preceding years, but the falling trend in the area sown to wheat was reversed. In Romania, the high share of the arable area under grain offset in part lower yields compared with other countries with similar natural conditions. In the Soviet Union, the downward trend of the area under grain was reversed in 1983.

All countries have expanded irrigation and drainage work. Experience in 1982 and 1983 showed that yields on irrigated land were at least 25 per cent higher than yields on non-irrigated land. However, the data on irrigation and other land improvements in 1983 are incomplete and no comprehensive picture of changes in 1983 is yet possible.

### (b) *Investment policies and increments in fixed assets*

Investment policy in agriculture varied between the countries during 1980–1983 but was fairly consistent in individual countries (table 3.2.4). Data are still incomplete for 1983, but

TABLE 3.2.2

**Employment in agriculture**

| Period | Economically active population in agriculture | | Percentage of total economically active population | Labour force per 100 hectares of agricultural land | Economically active population in agriculture | | Percentage of total economically active population | Labour force per 100 hectares of agricultural land |
|---|---|---|---|---|---|---|---|---|
| | Total (*thousands*) | Annual percentage change | | | Total (*thousands*) | Annual percentage change | | |
| | | *Bulgaria* | | | | *Romania* | | |
| 1976–1980[a] | 1 074 | −2.6 | 24.9 | 17.3 | 3 379 | −4.9 | 32.8 | 22.5 |
| 1980 | 1 047 | −0.7 | 23.8 | 16.9 | 3 088 | −3.6 | 29.8 | 20.6 |
| 1981 | 1 031 | −1.5 | 23.1 | 16.7 | 3 003 | −2.8 | 28.9 | 20.1 |
| 1982 | 1 002 | −2.8 | 22.3 | 16.2 | 2 950* | −1.8* | . . | . . |
| | | *Czechoslovakia* | | | | *Soviet Union* | | |
| 1976–1980[a] | 971 | −1.1 | 13.4 | 14.0 | 26 340 | −0.4 | 21.3 | 4.8 |
| 1980 | 953 | −0.2 | 13.0 | 13.9 | 26 000 | −0.2 | 20.0 | 4.7 |
| 1981 | 953 | — | 12.9 | 13.9 | 25 900 | −0.4 | 20.0 | 4.7 |
| 1982 | 946 | −0.8 | 12.7 | 13.8 | 26 000 | 0.4 | 20.0 | 4.7 |
| | | *German Democratic Republic* | | | | *Byelorussian SSR* | | |
| 1976–1980[a] | 823 | −0.4 | 10.1 | 13.1 | 1 266 | −1.5 | 25.4 | 13.0 |
| 1980 | 823 | 0.1 | 10.0 | 13.1 | 1 223 | −1.6 | 24.1 | 12.7 |
| 1981 | 828 | 0.6 | 10.0 | 13.2 | . . | . . | . . | . . |
| 1982 | 828 | — | 9.9 | 13.2 | . . | . . | . . | . . |
| | | *Hungary* | | | | *Ukrainian SSR* | | |
| 1976–1980[a] | 1 034 | −1.7 | 20.4 | 15.4 | 6 103 | −1.7 | 24.0 | 14.4 |
| 1980 | 1 033 | −0.6 | 20.6 | 15.6 | 5 866 | −1.8 | 22.5 | 13.9 |
| 1981 | 1 053 | 1.9 | 21.0 | 16.0 | 5 759 | −1.8 | 22.3 | 13.7 |
| 1982 | 1 083 | 2.8 | 21.8 | 16.5 | 5 682 | −1.3 | 22.0 | 13.5 |
| | | *Poland* | | | | | | |
| 1976–1980 | 4 950 | 1.2 | 29.2 | 26.0 | . . | . . | . . | . . |
| 1980 | 5 142 | 0.9 | 29.7 | 27.1 | . . | . . | . . | . . |
| 1981 | 5 197 | 1.1 | 29.8 | 27.5 | . . | . . | . . | . . |
| 1982 | 5 173 | −0.5 | 30.4 | 27.4 | . . | . . | . . | . . |

*Sources* As for table 3.2.1

*Note* · Data cover the total number of persons occupied in agriculture. Data for Bulgaria, Czechoslovakia, Hungary, Poland, Romania and the Soviet Union are annual averages. Data for the German Democratic Republic refer to the end-September census

[a] Annual average

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[193] The Soviet Union may be an exception, but a number of studies have shown that it is generally more costly to raise output by expanding the cultivated land area than by cultivating existing areas more intensively.

[194] *Népszabadság*, 10 January 1984.

TABLE 3.2.3

### Distribution of agricultural land

| Country and period | Agricultural land | Arable land | | Land under grain | | | | Land reclamation | |
|---|---|---|---|---|---|---|---|---|---|
| | (Thousand hectares) | (Thousand hectares) | Hectare per capita | (Thousand hectares) | Per cent of arable land | of which: Under wheat (thousand hectares) | Per cent of arable land | Irrigated (thousand hectares) | Drained (thousand hectares) |
| *Bulgaria* | | | | | | | | | |
| 1975 | 5 955 | 3 699 | 0.42 | 2 323 | 62.8 | 912 | 24.7 | 1 185 | .. |
| 1980 | 6 185 | 3 700 | 0.42 | 2 226 | 60.2 | 968 | 26.2 | 1 182 | .. |
| 1981 | 6 179 | 3 733 | 0.42 | 2 161 | 57.9 | 1 032 | 27.6 | 1 170 | .. |
| 1982 | 6 182 | 3 742 | 0.42 | 2 219 | 59.3 | 1 059 | 28.3 | 1 200* | .. |
| *Czechoslovakia* | | | | | | | | | |
| 1975 | 7 004 | 4 899 | 0.33 | 2 834 | 57.7 | 1 183 | 24.1 | .. | .. |
| 1980 | 6 851 | 4 800 | 0.31 | 2 709 | 57.0 | 1 197 | 24.9 | .. | .. |
| 1981 | 6 843 | 4 800 | 0.31 | 2 683 | 55.9 | 1 090 | 22.8 | .. | .. |
| 1982 | 6 840 | 4 798 | 0.31 | 2 659 | 55.4 | 1 073 | 22.4 | .. | .. |
| *German Democratic Republic* | | | | | | | | | |
| 1975 | 6 295 | 4 699 | 0.28 | 2 562 | 54.5 | 689 | 12.9 | 620 | 447 |
| 1980 | 6 269 | 4 760 | 0.28 | 2 575 | 54.1 | 707 | 14.9 | 899 | 1 523 |
| 1981 | 6 264 | 4 747 | 0.28 | 2 534 | 53.4 | 675 | 14.2 | 945 | 1 565 |
| 1982 | 6 259 | 4 731 | 0.28 | 2 568 | 54.3 | 591 | 12.5 | 930 | .. |
| *Hungary* | | | | | | | | | |
| 1975 | 6 770 | 5 126 | 0.49 | 3 219 | 62.8 | 1 251 | 24.4 | 156 | .. |
| 1980 | 6 627 | 5 026 | 0.47 | 2 988 | 59.5 | 1 276 | 25.4 | 134 | .. |
| 1981 | 6 601 | 5 024 | 0.47 | 2 883 | 57.4 | 1 151 | 22.9 | 184 | .. |
| 1982 | 6 582 | 5 017 | 0.47 | 2 974 | 59.3 | 1 310 | 26.1 | 155 | .. |
| *Poland* | | | | | | | | | |
| 1975 | 19 209 | 14 674 | 0.43 | 8 093 | 55.2 | 1 842 | 12.6 | 491 | 3 453 |
| 1980 | 18 947 | 14 394 | 0.41 | 8 035 | 55.8 | 1 609 | 11.2 | 519 | 3 819 |
| 1981 | 18 910 | 14 403 | 0.40 | 8 075 | 56.1 | 1 418 | 10.0 | 521 | 3 837 |
| 1982 | 18 892 | 14 422 | 0.40 | 8 261 | 57.3 | 1 456 | 10.1 | .. | .. |
| *Romania* | | | | | | | | | |
| 1975 | 14 946 | 9 736 | 0.46 | 6 348 | 65.2 | 2 386 | 24.5 | 1 447 | .. |
| 1980 | 14 963 | 9 824 | 0.44 | 6 577 | 66.9 | 2 279 | 23.2 | 2 300 | .. |
| 1981 | 14 948 | 9 840 | 0.44 | 6 649 | 67.6 | 2 141 | 21.8 | .. | .. |
| 1982 | 14 964 | 9 860 | 0.44 | 6 769* | 68.7 | 2 192* | 22.2* | .. | .. |
| *Soviet Union* | | | | | | | | | |
| 1975 | 548 812 | 225 462 | 0.89 | 127 920 | 56.7 | 61 985 | 27.5 | 14 241 | 11 065 |
| 1980 | 553 565 | 226 417 | 0.85 | 126 608 | 55.9 | 61 475 | 27.1 | 17 256 | 13 693 |
| 1981 | 553 751 | 226 597 | 0.85 | 125 559 | 55.4 | 59 232 | 26.1 | 17 793 | 13 795 |
| 1982 | 556 268 | 226 693 | 0.84 | 123 012 | 54.3 | 57 278 | 25.3 | 18 358 | 14 222 |
| *Byelorussian SSR* | | | | | | | | | |
| 1975 | 9 785 | 6 128 | 0.65 | 2 604 | 42.5 | 196 | 3.2 | 139 | 2 041 |
| 1980 | 9 646 | 6 196 | 0.64 | 3 139 | 50.7 | 209 | 3.4 | 163 | 2 448 |
| 1981 | 9 634 | 6 195 | 0.64 | 3 017 | 48.7 | 245 | 3.9 | 173 | 2 430 |
| 1982 | 9 642 | 6 198 | 0.64 | 2 949 | 47.6 | 270 | 4.3 | 181 | 2 483 |
| *Ukrainian SSR* | | | | | | | | | |
| 1975 | 42 203 | 34 259 | 0.70 | 16 540 | 48.3 | 7 976 | 23.3 | 1 483 | 1 887 |
| 1980 | 42 069 | 34 232 | 0.68 | 16 473 | 48.1 | 8 031 | 23.5 | 2 013 | 2 378 |
| 1981 | 42 047 | 34 228 | 0.68 | 16 671 | 48.7 | 7 708 | 22.5 | 2 098 | 2 407 |
| 1982 | 42 026 | 34 215 | 0.68 | 16 636 | 48.6 | 7 707 | 22.5 | 2 181 | 2 504 |

*Sources*. As for table 3.2.1

they indicate that in *Bulgaria* investment volumes rose to levels comparable with the first year of the current five-year plan following the sizeable decline in 1982. In *Czechoslovakia*, agricultural investment remained a priority feature of generally restrictive policy, as announced a year ago.[195] Investment in agriculture decreased by around 8–9 per cent over 1982 in the *German Democratic Republic*. *Hungary* followed a similar direction.[196] The decline in farm investments in *Poland* over the last few years slowed down, and there was a slight increase in agriculture's share in total investment in 1983. In *Romania*, agricultural investment declined slightly in 1982, but this does not appear to reflect any changes in policy since 1981; in 1983, for instance, 17.2 per cent of total investment was devoted to agriculture, forestry and water management. The *Soviet Union* reported a 5 per cent growth of investments in the agro-industrial complex in 1983, of which more than 80 per cent were in agriculture. Common features of investment policy in most countries are rationalization and modernization of existing capital stocks rather than expansion in the quantity of productive plant. This is reflected in qualitative changes in the structure of equipment, which is indicated by the faster increase of horse power per hectare rather than in the number of machines (table 3.2.5). Construction work is increasingly devoted to service and storage facilities in order to diminish losses.

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[195] *Economic Survey of Europe in 1982*, p.139.

[196] *Népszabadság*, 7 January 1984.

### Table 3.2.4

### Investment and fixed assets in agriculture

| Country and period | Investment | | | | Fixed assets | |
|---|---|---|---|---|---|---|
| | Total (*millions of n.c.u. at constant prices*) | Annual percentage change | Percentage of | | Total (*millions of n.c.u. at constant prices*) | Percentage of total fixed assets in the material sphere |
| | | | Total investment | Investment in material sphere | | |
| *Bulgaria* | | | | | | |
| 1976–1980[a] | 827 | 4.4 | 13.4 | 18.0 | 7 395 | 17.4 |
| 1980 | 895 | 14.9 | 12.6 | 17.4 | 8 337 | 16.4 |
| 1981 | 983 | 9.9 | 12.4 | 17.4 | 8 782 | 16.0 |
| 1982 | 796 | −9.0 | 9.8 | 13.7 | 9 399 | 14.5 |
| *Czechoslovakia* | | | | | | |
| 1976–1980[a] | 15 178 | 5.3 | 10.6 | 15.6 | 192 903 | 15.0 |
| 1980 | 14 641 | −3.7 | 9.7 | 14.7 | 217 839 | 15 2 |
| 1981 | 15 588 | 6.5 | 10.9 | 15.9 | 231 497 | 15.1 |
| 1982 | 16 402 | 5.2 | 11.7 | 17.1 | 244 425 | 15.0 |
| *German Democratic Republic* | | | | | | |
| 1976–1980[a] | 5 511 | 1.8 | 10.4 | 13.4 | 55 683 | 12.8 |
| 1980 | 5 313 | −0.4 | 9.7 | 12.5 | 61 662 | 12.8 |
| 1981 | 5 467 | 2.9 | 9.8 | 12.5 | 65 032 | 12.7 |
| 1982 | 5 000 | −8.5 | 9.5 | 12.2 | 68 750 | 12.8 |
| *Hungary* | | | | | | |
| 1976–1980[a] | 30 062 | 4.3 | 13.8 | 21.7 | 398 474 | 19.3 |
| 1980 | 28 417 | −11.2 | 13.0 | 22.2 | 440 016 | 18.0 |
| 1981 | 30 690 | 8.0 | 14.8 | 25.3 | 459 035 | 18.1 |
| 1982 | 30 381 | −1.0 | 15.0 | 25.4 | 478 957 | 18.1 |
| *Poland* | | | | | | |
| 1976–1980[a] | 307 820 | 7.8 | 17.2 | 24.4 | 4 307 400 | 29.9 |
| 1980 | 270 000 | −17.1 | 17.4 | 25.7 | 4 852 000 | 29.7 |
| 1981 | 235 800 | −12.7 | 19.6 | 29.3 | 5 056 900 | 29.9 |
| 1982 | 198 900 | −15.6 | 18.8 | 29.2 | 5 149 600 | 29.9 |
| *Romania* | | | | | | |
| 1976–1980[a] | 25 703 | 9.2 | 13.8 | 16.4 | 175 022 | 14.7 |
| 1980 | 28 008 | 4.4 | 13.3 | 15.7 | 199 469 | 14.1 |
| 1981 | 30 921 | 10.4 | 15.8 | 18.7 | 214 006 | 13.9 |
| 1982 | 30 230 | −2.2 | 15.9 | 18.9 | 229 000* | 14.1 |
| *Soviet Union* | | | | | | |
| 1976–1980[a] | 25 863 | 5.3 | 20.4 | 27.5 | 208 964 | 20.8 |
| 1980 | 27 044 | 1.5 | 20.2 | 27.2 | 238 930 | 20.8 |
| 1981 | 27 700 | 2.4 | 20.0 | 26.7 | 246 000 | 20.7 |
| 1982 | 28 000 | 1.1 | 19.5 | 26.4 | 263 000 | 20.7 |
| *Byelorussian SSR* | | | | | | |
| 1976–1980[a] | 1 107 | 4.1 | 26.4 | 31.0 | 8 700 | 28.1 |
| 1980 | 1 149 | 1.0 | 26.7 | 31.4 | 9 900 | 27.6 |
| 1981 | 1 190 | 3.6 | 26.1 | 30.8 | 10 861 | 27.9 |
| 1982 | 1 172 | −1.5 | 25.6 | 30.1 | .. | .. |
| *Ukrainian SSR* | | | | | | |
| 1976–1980[a] | 4 026 | 3.9 | 21.5 | 29.1 | 38 500 | 23.0 |
| 1980 | 4 017 | −0.1 | 21.4 | 29.0 | 43 500 | 23.1 |
| 1981 | 4 023 | −1.0 | 21.2 | 29.0 | 46 000 | 23.2 |
| 1982 | 4 066 | 1.2 | 20.8 | 28.6 | 48 500 | 23.2 |

*Source* As for table 3.2.1

[a] Annual average

### (c) *Other inputs*

Levels of mineral fertilizer consumption have changed little in recent years (table 3.2.6). Following a big jump in fertilizer use at the end of the 1970s, Bulgaria joined the group of high consumers. Romania increased the share of its domestic output in total consumption and so reduced the gap in applications per hectare between it and other countries with similar natural conditions. Small but steady increases in fertilizer consumption took place in the Soviet Union (table 3.2.6).

Energy available to agriculture increased in all countries. However, despite the increases in the number and power of machines, electricity consumption rose more slowly than before in some countries, reflecting efforts to limit energy consumption in agriculture.

### (d) *Efficiency*

Changes in agricultural efficiency indicators (table 3.2.7) reflect the fact that objectives laid down in all countries' five-year plans for reducing unit costs and reversing decreasing

TABLE 3.2.5

**Stocks and deliveries of agricultural machinery**

| Country and period | Stocks of tractors | | | | Deliveries to agriculture | |
|---|---|---|---|---|---|---|
| | Physical units *(thousands)* | Motor h.p. *(in million h.p.)* | Agricultural land per tractor *(in hectares)* | Motor h.p. per 100 hectares of arable land | of Tractors *(thousands)* | of Grain combines *(thousands)* |
| *Bulgaria* | | | | | | |
| 1976–1980[a] | 64.1 | 3.8 | 97 | 101 | 4.8 | 1.0 |
| 1980 | 62.0 | 3.9 | 100 | 106 | 4.4 | 0.6 |
| 1981 | 60.5 | 3.9 | 102 | 105 | 3.8 | 1.1 |
| 1982 | 59.6 | 3.9 | 104 | 105 | 3.6 | 1.2 |
| *Czechoslovakia* | | | | | | |
| 1976–1980[a] | 139.1 | 8.4 | 50 | 171 | 7.3 | 1.6 |
| 1980 | 136.7 | 8.8 | 50 | 182 | 6.3 | 1.4 |
| 1981 | 134.1 | 8.8 | 51 | 184 | 5.1 | 1.0 |
| 1982 | 132.3 | 8.8 | 52 | 184 | 6.5 | 1.2 |
| *German Democratic Republic* | | | | | | |
| 1976–1980[a] | 140.3 | 8.4 | 45 | 177 | 8.1 | 0.7 |
| 1980 | 144.5 | 9.3 | 43 | 195 | 6.0 | 0.5 |
| 1981 | 147.0 | 9.8 | 43 | 207 | 6.3 | 0.5 |
| 1982 | 149.5 | 10.0 | 42 | 212 | 4.9 | 0.6 |
| *Hungary* | | | | | | |
| 1976–1980[a] | 57.1 | 3.8 | 118 | 75 | 4.6 | 1.8 |
| 1980 | 55.5 | 4.1 | 119 | 82 | 4.5 | 1.1 |
| 1981 | 54.9 | 4.2 | 120 | 84 | 3.6 | 0.9 |
| 1982 | 55.3 | 4.4 | 119 | 88 | 4.4 | 1.3 |
| *Poland* | | | | | | |
| 1976–1980[a] | 534.0 | 20.4 | 36 | 140 | 55.0 | 4.1 |
| 1980 | 646.0 | 25.6 | 29 | 178 | 59.9 | 4.5 |
| 1981 | 682.0 | 28.0 | 28 | 196 | 59.4 | 4.2 |
| 1982 | 738.0 | 30.5 | 26 | 212 | 60.5 | 4.4 |
| *Romania* | | | | | | |
| 1976–1980[a] | 138.4 | 8.7 | 108 | 89 | 13.9 | 4.2 |
| 1980 | 146.6 | 9.4 | 102 | 95 | 15.3 | 4.6 |
| 1981 | 156.0 | 9.7 | 96 | 98 | 21.2 | 6.2 |
| 1982 | 169.0 | 10.9 | 89 | 111 | .. | .. |
| *Soviet Union* | | | | | | |
| 1976–1980[a] | 2 495 | 178.0 | 222 | 79 | 361.2 | 107.8 |
| 1980 | 2 562 | 191.5 | 216 | 85 | 347.6 | 117.5 |
| 1981 | 2 598 | 199.8 | 213 | 88 | 353.5 | 104.8 |
| 1982 | 2 649 | 209.0 | 210 | 92 | 350.0 | 110.4 |
| *Byelorussian SSR* | | | | | | |
| 1976–1980[a] | 111.9 | 6.8 | 87 | 110 | 15.8 | 3.9 |
| 1980 | 117.2 | 7.6 | 82 | 123 | 15.0 | 4.1 |
| 1981 | 119.2 | 8.1 | 81 | 131 | 14.8 | 3.9 |
| 1982 | 122.4 | 8.6 | 79 | 139 | 14.1 | 3.6 |
| *Ukrainian SSR* | | | | | | |
| 1976–1980[a] | 397.2 | 21.7 | 106 | 79 | 52.7 | 13.6 |
| 1980 | 408.8 | 29.4 | 103 | 86 | 49.5 | 12.8 |
| 1981 | 413.3 | 30.3 | 102 | 88 | 51.4 | 12.1 |
| 1982 | 420.9 | 31.6 | 100 | 92 | 47.4 | 12.2 |

*Sources* As for table 3.2.1

[a] Annual average

trends in overall efficiency have not yet, despite great efforts, been achieved. Most countries registered rapid increases in fixed assets per hectare of arable land and per employee. Capital productivity decreased further in 1982 except in Hungary, where its 1980 level was regained and output per hectare and per unit of labour increased faster than the fixed assets-gross output ratio (the reciprocal of capital productivity). In the German Democratic Republic and Hungary, the rise in productivity per hectare was – in contrast to the other countries – higher than for labour productivity. Data for 1983 are not yet available, but they are not expected to change the general picture, though they may indicate improvements in certain efficiency indicators for Poland and the Soviet Union.

### (iii) Crop production and fodder supply

#### (a) *Crop production*

In 1983 the east European countries and the Soviet Union aimed to achieve harvests of at least the same size as in the relatively favourable crop year of 1982. Unusually hot and dry weather – for the second consecutive year in several countries – precluded this. Only Poland and the Soviet Union recorded significant growth of crop production in 1983, (6 and 5 per cent respectively). All other countries reported output in 1983 below the previous year, as well as below targets (table 3.2.1).

A notable feature of 1983 was the big inter-country

TABLE 3.2.6

**Supplies of chemical fertilizers and plant protection chemicals and consumption of electricity in agriculture**

| Country and period | Fertilizer supplies (in pure nutrient content) |  | Supplies of plant protection chemicals |  | Consumption of electricity electricity in agriculture |  |
|---|---|---|---|---|---|---|
|  | Total (*thousand tons*) | kg/ha of arable land | Total *thousand tons* | kg/ha of arable land | Total in GWh | KWh per ha of agricultural land |
| *Bulgaria* |  |  |  |  |  |  |
| 1976–1980[a] | 758 | 204 | 32.0 | 8.6 | 1 029 | 166 |
| 1980 | 830 | 224 | 40.0 | 10.8 | 1 115 | 180 |
| 1981 | 1 044 | 280 | 48.7 | 13.0 | 1 110 | 180 |
| 1982 | 1 038 | 277 | .. | .. | 1 139 | 184 |
| *Czechoslovakia* |  |  |  |  |  |  |
| 1976–1980[a] | 1 706 | 350 | .. | .. | 2 632 | 379 |
| 1980 | 1 730 | 358 | .. | .. | 2 715 | 396 |
| 1981 | 1 720 | 359 | .. | .. | 2 491 | 364 |
| 1982 | 1 741 | 363 | .. | .. | 2 506 | 366 |
| *German Democratic Republic* |  |  |  |  |  |  |
| 1976–1980[a] | 1 699 | 357 | 25.4 | 5.3 | 3 694 | 588 |
| 1980 | 1 637 | 344 | 27.0 | 5.7 | 3 891 | 621 |
| 1981 | 1 726 | 364 | 27.0 | 5.7 | 4 062 | 649 |
| 1982 | 1 408 | 298 | 26.7 | 5.7 | 4 121 | 658 |
| *Hungary* |  |  |  |  |  |  |
| 1976–1980[a] | 1 468 | 290 | .. | .. | 1 977 | 296 |
| 1980 | 1 399 | 278 | .. | .. | 2 095 | 316 |
| 1981 | 1 485 | 296 | .. | .. | 2 195 | 333 |
| 1982 | 1 528 | 305 | .. | .. | 2 283 | 347 |
| *Poland* |  |  |  |  |  |  |
| 1976–1980[a] | 3 613 | 250 | 46.3 | 3.2 | 4 385 | 228 |
| 1980 | 3 635 | 251 | 29.3 | 2.0 | 5 360 | 274 |
| 1981 | 3 499 | 243 | 38.4 | 2.0 | 5 701 | 302 |
| 1982 | 3 346 | 232 | .. | .. | 5 975 | 316 |
| *Romania* |  |  |  |  |  |  |
| 1976–1980[a] | 1 274 | 130 | .. | .. | 2 599 | 174 |
| 1980 | 1 185 | 121 | .. | .. | 2 821 | 189 |
| 1981 | 1 618 | 164 | .. | .. | 3 181 | 213 |
| 1982 | .. | .. | .. | .. | 3 457 | 231 |
| *Soviet Union* |  |  |  |  |  |  |
| 1976–1980[a] | 18 064 | 80 | .. | .. | 96 058 | 174 |
| 1980 | 18 763 | 84 | 482 | 2.1 | 111 000 | 200 |
| 1981 | 19 176 | 86 | 509 | 2.2 | 114 000 | 206 |
| 1982 | 20 152 | 90 | 518 | 2.3 | 120 500 | 217 |
| *Byelorussian SSR* |  |  |  |  |  |  |
| 1976–1980[a] | 1 496 | 242 | .. | .. | 2 980 | 306 |
| 1980 | 1 470 | 253 | .. | .. | 3 412 | 352 |
| 1981 | 1 591 | 273 | .. | .. | 3 497 | 363 |
| 1982 | 1 623 | 279 | .. | .. | 3 617 | 375 |
| *Ukrainian SSR* |  |  |  |  |  |  |
| 1976–1980[a] | 3 630 | 106 |  | .. | 16 850 | 400 |
| 1980 | 3 713 | 112 |  | .. | 18 922 | 451 |
| 1981 | 3 700 | 112 | .. | .. | 18 900 | 450 |
| 1982 | 4 061 | 119 | .. | .. | 19 600 | 467 |

*Sources:* As for table 3.2.1

[a] Annual average

differences in the performance of individual crops. Countries in the northern and central area of the region, including the Soviet Union, achieved grain harvests similar to or even better than 1982, whereas the other traditional grain growing countries suffered from drought which started in the spring (table 3.2.8). Estimated grain output in eastern Europe probably decreased by 4–5 per cent or about 4 million tons in comparison with 1982. Grain output in the Soviet Union is estimated at around 200 million tons in 1983. Thus, the volume of grain output in the whole region may have grown by 6–7 per cent in 1983. Despite the difficult conditions, most countries achieved total output levels higher than the average for the preceding five-year period.

The harvest of non-grain crops varied less than for grain (table 3.2.9). Potato output in 1983 rose in Romania and the Soviet Union to above 1976–1980 levels. But it fell in all other countries and, with the exception of Poland, it was lower than in 1982. The same is true of sugar-beet output, with countries other than Poland (where output was at a record level) reporting output far below long-term averages. Information on other crops is still missing or incomplete. Czechoslovakia and Poland reported excellent results in oilseed production.

### (b) *Fodder supply*

Domestic output of animal feed markedly influences livestock production and the foreign trade patterns of all east European countries and the Soviet Union. However, fodder crop output has increased in most countries over the last few years (table 3.2.10).

### TABLE 3.2.7

## Capital intensity, capital productivity and labour productivity

*(Indices: 1976–1980 = 100)*

| | Bulgaria | Czechoslovakia | German Democratic Republic | Hungary | Poland | Romania | Soviet Union |
|---|---|---|---|---|---|---|---|
| | | | *A. Fixed assets per hectare of arable land* | | | | |
| 1980 | 113.4 | 114.5 | 110.9 | 111.1 | 113.0 | 113.6 | 106.7 |
| 1981 | 118.4 | 121.6 | 117.2 | 115.9 | 117.7 | 121.7 | 114.0 |
| 1982 | 126.4 | 128.5 | 124.4 | 121.1 | 119.7 | 129.9 | 121.6 |
| | | | *B. Fixed assets per employee* | | | | |
| 1980 | 115.7 | 115.1 | 110.7 | 110.5 | 108.4 | 124.7 | 111.7 |
| 1981 | 123.7 | 121.2 | 115.8 | 113.1 | 111.8 | 137.6 | 120.0 |
| 1982 | 136.2 | 130.1 | 122.7 | 114.8 | 114.4 | 149.9 | 127.5 |
| | | | *C. Capital productivity* | | | | |
| 1980 | 89.1 | 93.0 | 93.9 | 93.3 | 81.8 | 88.6 | 89.3 |
| 1981 | 89.6 | 85.3 | 90.8 | 91.2 | 82.7 | 81.8 | 82.6 |
| 1982 | 88.0 | 84.4 | 82.3 | 93.8 | 79.0 | 82.3 | 81.7 |
| | | | *D. Labour productivity* | | | | |
| 1980 | 103.0 | 106.4 | 104.0 | 105.5 | 88.7 | 110.4 | 99.7 |
| 1981 | 109.8 | 103.2 | 105.2 | 105.6 | 92.5 | 112.5 | 97.8 |
| 1982 | 119.9 | 109.1 | 101.0 | 110.2 | 90.4 | 123.3 | 104.1 |
| | | | *E. Land productivity* | | | | |
| 1980 | 101.0 | 105.8 | 104.1 | 105.0 | 92.5 | 100.6 | 98.3 |
| 1981 | 106.0 | 103.2 | 106.4 | 107.1 | 97.4 | 99.5 | 97.2 |
| 1982 | 111.2 | 107.8 | 102.3 | 115.1 | 94.6 | 106.9 | 102.5 |

*Source:* As for table 3.2.1.

### TABLE 3.2.8

## Production and yields of grain crops

*(Output per year in million tons: yields in quintals per hectare)*

| Country and period | Grains total | | Wheat | | Rye | | Barley | | Oats | | Maize | | Total grain output per capita in kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Output | Yield | Output | Yield | Output | Yield | Output | Yield | Output | Yield | Output | Yield | |
| *Bulgaria* | | | | | | | | | | | | | |
| 1976–1980[a] | 7.98 | 35.4 | 3.51 | 37.4 | 0.02 | 13.6 | 1.53 | 31.6 | 0.07 | 14.1 | 2.65 | 40.3 | 905 |
| 1980 | 7.70 | 36.1 | 3.85 | 39.7 | 0.03 | 14.1 | 1.38 | 32.3 | 0.05 | 12.9 | 2.26 | 38.5 | 868 |
| 1981 | 8.53 | 39.4 | 4.44 | 43.0 | 0.03 | 12.6 | 1.41 | 36.8 | 0.06 | 13.6 | 2.40 | 42.5 | 960 |
| 1982 | 10.06 | 45.2 | 4.91 | 46.3 | 0.03 | 14.5 | 1.44 | 40.8 | 0.05 | 11.6 | 3.42 | 54.8 | 1 129 |
| 1983 | 8.80* | 40.5 | 4.40* | 41.9* | 0.03* | 13.6* | 1.20* | 31.6 | 0.05* | 12.5* | 3.00* | 48.4* | |
| Plan 1981–1985[b] | 10.5–11.0 | .. | .. | .. | .. | . | .. | . | | | | | |
| *Czechoslovakia* | | | | | | | | | | | | | |
| 1976–1980[a] | 10.20 | 36.9 | 4.95 | 40.2 | 0.58 | 31.1 | 3.39 | 36.8 | 0.42 | 26.0 | 0.72 | 45.0 | 674 |
| 1980 | 10.86 | 40.1 | 5.39 | 45.0 | 0.57 | 31.9 | 3.58 | 38.8 | 0.42 | 30.4 | 0.75 | 46.9 | 709 |
| 1981 | 9.53 | 35.5 | 4.33 | 39.7 | 0.54 | 31.8 | 3.39 | 34.1 | 0.43 | 26.9 | 0.71 | 41.3 | 622 |
| 1982 | 10.42 | 39.2 | 4.61 | 42.9 | 0.58 | 33.0 | 3.65 | 37.8 | 0.49 | 28.4 | 0.94 | 53.3 | 678 |
| 1983 | 11.04 | 43.5 | 5.82 | 48.9 | 0.50* | 34.0* | 3.80* | 38.4* | 0.50* | 33.3* | 0.80* | 53.3* | |
| Plan 1981–1985[b] | 12.40 | .. | .. | . | | .. | | . | | | | | |
| *German Democratic Republic* | | | | | | | | | | | | | |
| 1976–1980[a] | 9.12 | 35.4 | 3.00 | 41.7 | 1.75 | 27.1 | 3.72 | 37.9 | 0.53 | 33.4 | — | 43.5 | 544 |
| 1980 | 9.70 | 37.7 | 3.10 | 43.8 | 1.92 | 28.3 | 3.98 | 41.1 | 0.58 | 37.5 | — | 44.9 | 579 |
| 1981 | 8.94 | 35.3 | 2.94 | 43.6 | 1.80 | 27.4 | 3.48 | 36.0 | 0.60 | 34.8 | — | 44.6 | 534 |
| 1982 | 10.11 | 39.4 | 2.74 | 46.4 | 2.12 | 32.5 | 4.06 | 41.3 | 0.85 | 38.9 | — | 32.2 | 606 |
| 1983 | 10.05 | 39.6 | 3.00* | 45.0* | 2.10* | 33.9* | 4.00* | 41.3* | 0.80* | 40.0* | | | |
| Plan 1981–1985[b] | 10.40 | 39.5 | .. | .. | | | | | | | | | |

TABLE 3.2.8 (*continued*)

| | Grains total | | Wheat | | Rye | | Barley | | Oats | | Maize | | Total grain output per capita in kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Country and period | Output | Yield | Output | Yield | Output | Yield | Output | Yield | Output | Yield | Output | Yield | |
| *Hungary* | | | | | | | | | | | | | |
| 1976–1980[a] | 12.76 | 41.6 | 5.19 | 40.6 | 0.14 | 16.5 | 0.77 | 32.5 | 0.09 | 23.7 | 6.37 | 48.5 | 1 196 |
| 1980 | 14.17 | 47.3 | 6.08 | 47.6 | 0.14 | 19.0 | 0.93 | 37.7 | 0.11 | 30.3 | 6.67 | 53.2 | 1 322 |
| 1981 | 13.03 | 44.9 | 4.61 | 40.0 | 0.12 | 15.6 | 0.90 | 31.4 | 0.17 | 28.8 | 6.96 | 58.6 | 1 216 |
| 1982 | 15.07 | 50.5 | 5.76 | 43.9 | 0.12 | 15.7 | 0.87 | 33.0 | 0.12 | 23.7 | 7.96 | 68.6 | 1 408 |
| 1983 | 13.70 | 47.0* | 5.40* | 41.0* | 0.11* | 15.5* | 0.85* | 32.5* | 0.10* | 23.5* | 7.00* | 60.0* | .. |
| Plan 1981–1985[b] | 14.7–15.7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Poland* | | | | | | | | | | | | | |
| 1976–1980[a] | 19.72 | 24.5 | 5.09 | 29.3 | 6.47 | 21.6 | 3.56 | 27.6 | 2.43 | 22.8 | 0.16 | 40.0 | 564 |
| 1980 | 18.54 | 23.1 | 4.18 | 26.0 | 6.57 | 21.6 | 3.42 | 25.9 | 2.25 | 22.5 | 0.06 | 35.4 | 521 |
| 1981 | 19.94 | 24.7 | 4.20 | 29.6 | 6.73 | 22.4 | 3.54 | 27.3 | 2.73 | 23.6 | 0.07 | 42.0 | 555 |
| 1982 | 21.39 | 25.9 | 4.48 | 30.7 | 7.79 | 23.8 | 3.65 | 29.5 | 2.61 | 24.0 | 0.07 | 42.0 | 590 |
| 1983 | 22.10 | 27.3 | 5.20 | 33.6 | 8.80 | 25.5 | 3.20 | 29.7 | 2.40 | 22.8 | .. | .. | .. |
| Plan 1981–1985[b] | 21.50* | .. | .. | .. | .. | .. | .. | .. | .. | .. | . | . | . |
| *Romania* | | [c] | [c] | | | | | | | | | | |
| 1976–1980[a] | 19.48 | 30.1 | 6.15 | 26.8 | .. | .. | 1.98 | 29.9 | 0.06 | 10.9 | 11.10 | 33.6 | 892 |
| 1980 | 20.30 | 30.8 | 6.47 | 28.4 | .. | .. | 2.47 | 30.5 | 0.05 | 9.2 | 11.15 | 33.9 | 915 |
| 1981 | 20.08 | 29.8 | 5.35 | 25.0 | .. | .. | 2.57 | 28.0 | 0.07 | 10.5 | 11.89 | 35.1 | 898 |
| 1982 | 22.54 | 33.3* | 6.51 | 29.7 | .. | .. | 3.05 | 33.0* | 0.09 | 13.5 | 12.62 | 41.1 | 1 003 |
| 1983 | 20.00 | 29.5 | 5.10 | 23.1 | .. | .. | 2.50* | 30.0* | 0.06* | 12.0 | 11.50* | 35.9* | .. |
| Plan 1981–1985[b] | 28.50 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | . |
| *East European countries* | | | | | | | | | | | | | |
| 1976–1980[a] | 79.25 | 31.5 | 27.89 | 34.0 | 8.96 | 22.8 | 14.95 | 32.7 | 3.60 | 23.6 | 21.01 | 38.4 | 732 |
| 1980 | 81.27 | 32.5 | 29.05 | 36.2 | 9.22 | 23.1 | 14.74 | 33.6 | 3.46 | 24.4 | 20.89 | 39.4 | 743 |
| 1981 | 80.05 | 32.1 | 25.87 | 34.5 | 9.22 | 23.5 | 15.29 | 31.6 | 4.06 | 24.6 | 22.07 | 41.9 | 728 |
| 1982 | 89.59 | 35.3 | 29.00 | 37.8 | 10.65 | 25.4 | 16.72 | 34.5* | 4.09 | 24.6* | 25.01 | 49.6 | 811 |
| 1983 | 85.69 | 33.7* | 28.92* | 35.7* | 11.54* | 26.9* | 15.55* | 34.6* | 3.91* | 26.1* | 22.30* | 43.5 | .. |
| Plan 1981–1985[b] | 98.70 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| *Soviet Union* | | | | | | | | | | | | | |
| 1976–1980[a] | 205.05 | 16.0 | 99.69 | 16.4 | 10.88 | 14.0 | 55.15 | 16.3 | 17.16 | 14.2 | 9.57 | 32.2 | 785 |
| 1980 | 189.09 | 14.9 | 98.18 | 16.0 | 10.21 | 11.8 | 43.45 | 13.8 | 15.54 | 13.2 | 9.45 | 31.7 | 712 |
| 1981[d] | 160.0 | 12.7 | 80.00 | 14.9 | 8.50 | 11.3 | 39.00 | 12.9 | 14.00 | 12.0 | 8.00 | 22.6 | 598 |
| 1982[d] | 179.0 | 14.2 | 84.00 | 15.0 | 10.00 | 13.0 | 48.00 | 13.7 | 14.00 | 12.7 | 11.00 | 28.9 | 663 |
| 1983 | 200.0* | 15.9* | 87.00* | 16.0* | 14.00* | 14.0* | 56.00* | 17.5* | 16.00* | 13.3* | 14.00* | 31.0* | 734* |
| Plan 1981–1985 | 239.0 | 18.7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | | |
| *Byelorussian SSR* | | | | | | | | | | | | | |
| 1976–1980[a] | 6.18 | 21.3 | 0.33 | 25.1 | 1.99 | 21.6 | 2.90 | 23.3 | 0.72 | 20.0 | .. | .. | 651 |
| 1980 | 5.01 | 16.0 | 0.24 | 19.9 | 1.85 | 17.2 | 2.05 | 16.9 | 0.59 | 15.1 | .. | .. | 519 |
| 1981 | 5.81 | 19.3 | 0.54 | 22.1 | 2.11 | 20.5 | 2.23 | 21.0 | 0.73 | 17.8 | .. | .. | . |
| 1982 | 5.91* | 19.7 | .. | .. | .. | .. | .. | .. | .. | .. | | | |
| 1983 | .. | .. | .. | .. | .. | .. | .. | . | | | | | |
| Plan 1981 -1985 | .. | .. | .. | .. | .. | .. | .. | . | .. | | | | . |
| *Ukrainian SSR* | | | | | | | | | | | | | |
| 1976–1980 | 43.15 | 26.1 | 21.97 | 30.1 | 1.28 | 17.7 | 10.64 | 24.6 | 1.49 | 19.5 | 4.35 | 29.0 | 869 |
| 1980 | 38.10 | 23.1 | 21.33 | 26.6 | 1.14 | 14.2 | 7.24 | 20.8 | 1.18 | 16.7 | 4.07 | 27.2 | 762 |
| 1981 | .. | .. | .. | .. | .. | .. | .. | . | | | | | |
| 1982 | 41.90* | .. | .. | .. | .. | .. | | | | | | | . |
| 1983 | .. | .. | .. | .. | . | . | . | | . | | | | . |
| Plan 1981 -1985 | .. | .. | .. | .. | . | .. | | | | | | | |
| *East European countries and Soviet Union* | | | | | | | | | | | | | |
| 1976–1980[a] | 284.29 | 18.5 | 127.58 | 18.5 | 19.84 | 17.0 | 70.10 | 18.2 | 20.76 | 15.3 | 30.58 | 36.2 | 770 |
| 1980 | 270.36 | 17.8 | 127.23 | 18.3 | 19.43 | 15.4 | 58.19 | 16.4 | 19.00 | 14.4 | 30.34 | 36.6 | 721 |
| 1981 | 240.05* | 15.9* | 105.87 | .. | 17.72 | .. | 54.29* | .. | 18.06* | .. | 30.07 | .. | 636* |
| 1982 | 268.59* | 18.1* | 113.00* | .. | 20.65* | .. | 64.72* | .. | 18.09* | .. | 36.01* | .. | 711* |
| 1983 | 285.69 | 18.6* | 115.92* | .. | 25.54* | .. | 71.55* | .. | 19.91* | .. | 36.30* | | |
| Plan 1981–1985[b] | 337.70 | .. | .. | .. | .. | .. | .. | .. | .. | | | | |

*Source* As for table 3 2.1

[a] Annual average

[b] Estimation of the secretariat; calculated on the basis of national plan data for grain output in 1985

[c] Including rye

[d] Estimation of the FAO; *Monthly Bulletin of Statistics*, 5 October 1982; *Food Outlook*, 30 November 1982

TABLE 3.2.9

**Production and yields of non-grain crops**
*(Output in thousand tons; yields in quintals per hectare)*

| Country and period | Potatoes | | Sugar-beet | | Oilseeds | | Raw cotton | | Vegetables Output | Fruit Output |
|---|---|---|---|---|---|---|---|---|---|---|
| | Output | Yield | Output | Yield | Output | Yield | Output | Yield | | |
| ***Bulgaria*** | | | | | | | | | | |
| 1976–1980[a] | 370 | 105 | 1 827 | 290 | 511 | 15.8 | 12.3 | 6.8 | 1 741 | 1 963 |
| 1980 | 301 | 85 | 1 414 | 267 | 493 | 14.2 | 11.7 | 9.5 | 1 639 | 1 919 |
| 1981 | 403 | 110 | 1 136 | 215 | 569 | 15.7 | 12.7 | 10.0 | 1 721 | 2 215 |
| 1982 | 469 | 115 | 1 583 | 273 | 634 | 19.2 | 20.1 | 15.8 | 1 720 | 2 200 |
| 1983 | 400* | 110* | .. | .. | .. | .. | .. | .. | .. | .. |
| ***Czechoslovakia*** | | | | | | | | | | |
| 1976–1980[a] | 3 678 | 165 | 7 104 | 328 | 180 | 17.2 | — | — | 1 015 | 659 |
| 1980 | 2 695 | 136 | 7 230 | 332 | 252 | 19.2 | — | — | 974 | 772 |
| 1981 | 3 743 | 192 | 6 942 | 317 | 242 | 18.6 | — | — | 1 027 | 443 |
| 1982 | 3 608 | 181 | 8 158 | 383 | 227 | 16.7 | — | — | 1 186 | 1 041 |
| 1983 | 3 105 | 161 | 6 037 | 285 | 362 | 23.5 | — | — | .. | .. |
| ***German Democratic Republic*** | | | | | | | | | | |
| 1976–1980[a] | 9 873 | 175 | 6 510 | 267 | 301 | 22.8 | — | — | 1 555 | 686 |
| 1980 | 9 215 | 180 | 6 856 | 281 | 318 | 23.6 | — | — | 1 472 | 790 |
| 1981 | 10 378 | 206 | 7 207 | 308 | 293 | 21.7 | — | — | 1 682 | 650 |
| 1982 | 8 883 | 176 | 6 448 | 280 | 319 | 24.3 | — | — | 1 559 | 1 031 |
| 1983 | 7 300 | 145 | 5 500 | 240 | .. | .. | — | — | .. | .. |
| ***Hungary*** | | | | | | | | | | |
| 1976–1980[a] | 1 567 | 142 | 3 979 | 336 | 447 | 14.8 | — | — | 1 794 | 2 347 |
| 1980 | 1 392 | 150 | 3 941 | 376 | 620 | 16.7 | — | — | 1 793 | 2 551 |
| 1981 | 1 608 | 182 | 4 719 | 388 | 772 | 18.7 | — | — | 1 591 | 2 419 |
| 1982 | 1 459 | 173 | 5 371 | 426 | 744 | 18.2 | — | — | 1 631 | 2 981 |
| 1983 | 1 250* | 148* | 3 800 | 300* | 700* | 17.1* | — | — | 1 500* | 2 560* |
| ***Poland*** | | | | | | | | | | |
| 1976–1980[a] | 42 742 | 177 | 14 149 | 280 | 655 | 19.0 | — | — | 4 183 | 1 717 |
| 1980 | 26 391 | 113 | 10 139 | 221 | 583 | 17.3 | — | — | 3 847 | 1 563 |
| 1981 | 42 562 | 189 | 15 867 | 338 | 505 | 17.5 | — | — | 5 087 | 1 837 |
| 1982 | 31 951 | 147 | 15 085 | 306 | 444 | 16.4 | — | — | 4 204 | 2 639 |
| 1983 | 34 500 | 155 | 16 400 | 336 | 600 | 21.7 | — | — | .. | .. |
| ***Romania*** | | | | | | | | | | |
| 1976–1980[a] | 4 432 | 147 | 6 135 | 248 | 1 190 | 13.7 | 0.6 | 2.6 | 3 523 | 2 893 |
| 1980 | 4 135 | 141 | 5 562 | 234 | 1 336 | 13.5 | 0.2 | 2.0 | 3 589 | 2 731 |
| 1981 | 4 447 | 145 | 5 441 | 193 | 1 139 | 12.1 | 0.4 | 3.7 | 4 037 | 3 106 |
| 1982 | 5 006 | 167 | 6 647 | 247 | 1 214 | .. | 0.6 | .. | 4 881 | 4 237 |
| 1983 | 5 630 | 180* | 4 819 | 180* | .. | .. | .. | .. | 4 381 | 3 707 |
| ***East European countries*** | | | | | | | | | | |
| 1976–1980[a] | 62 662 | 172 | 39 704 | 285 | 3 284 | 15.8 | 12.9 | 6.3 | 13 811 | 10 265 |
| 1980 | 44 129 | 127 | 35 142 | 267 | 3 602 | 13.4 | 11.9 | 9.0 | 13 314 | 10 326 |
| 1981 | 63 141 | 186 | 41 312 | 299 | 3 502 | 15.5 | 13.1 | 9.5 | 15 145 | 10 660 |
| 1982 | 51 376 | 155 | 43 292 | 311 | 3 582 | .. | 20.7 | .. | 15 181 | 14 129 |
| 1983 | 52 185* | 159* | .. | .. | .. | .. | .. | .. | .. | .. |
| ***Soviet Union*** | | | | | [b] | | | | | |
| 1976–1980[a] | 82 571 | 117 | 88 446 | 237 | 6 044 | 10.2 | 8 932 | 29.3 | 26 326 | 15 170 |
| 1980 | 67 023 | 96 | 80 987 | 218 | 5 327 | 9.1 | 9 962 | 31.7 | 27 291 | 14 673 |
| 1981 | 72 087 | 105 | 60 843 | 168 | 5 320 | 9.4 | 9 636 | 30.4 | 27 138 | 17 256 |
| 1982 | 78 185 | 114 | 71 468 | 203 | 6 139 | 10.6 | 9 284 | 29.1 | 29 993 | 18 372 |
| 1983 | 83 000 | 124 | .. | .. | .. | .. | .. | .. | .. | .. |
| ***Byelorussian SSR*** | | | | | | | | | | |
| 1976–1980[a] | 12 920 | 159 | 1 249 | 246 | .. | .. | .. | .. | 752 | 480 |
| 1980 | 9 332 | 119 | 1 122 | 229 | .. | .. | .. | .. | 733 | 414 |
| 1981 | 13 430 | 173 | 1 413 | 270 | .. | .. | .. | .. | 868 | 694 |
| 1982 | 8 829 | 116 | 1 093 | 212 | .. | .. | .. | .. | 876 | 574 |
| ***Ukrainian SSR*** | | | | | [b] | | | | | |
| 1976–1980[a] | 20 542 | 120 | 53 891 | 300 | 2 422 | 14.3 | .. | .. | 7 579 | 3 878 |
| 1980 | 13 133 | 77 | 48 841 | 274 | 2 257 | 13.4 | .. | .. | 7 186 | 3 139 |
| 1981 | 19 025 | 115 | 36 612 | 211 | 2 317 | 14.2 | .. | .. | 6 481 | 3 940 |
| 1982 | 20 064 | 121 | 42 337 | 245 | 2 513 | 15.6 | .. | .. | 7 653 | 4 646 |
| ***East European countries and Soviet Union*** | | | | | | | | | | |
| 1976–1980[a] | 145 233 | 136 | 128 150 | 250 | 9 328 | 11.7 | 8 945 | 29.1 | 40 137 | 25 435 |
| 1980 | 111 152 | 106 | 114 701 | 231 | 8 929 | 10.2 | 9 974 | 31.6 | 40 687 | 24 970 |
| 1981 | 135 288 | 132 | 102 155 | 204 | 8 840 | 11.1 | 9 649 | 30.3 | 42 283 | 27 916 |
| 1982 | 129 561 | 128 | 114 760 | 233 | 9 721 | .. | 9 305 | 29.0 | 45 174 | 32 501 |
| 1983 | 135 185* | 135* | .. | .. | .. | .. | .. | .. | .. | .. |

*Source:* As for table 3.2.1. [a] Annual average. [b] Sunflower

TABLE 3.2.10

**Domestic fodder output (in feed units)**[a]
(*Indices: 1976–1980 annual average = 100*)

| | 1980 | 1981 | 1982 |
|---|---|---|---|
| Bulgaria | 89.9 | 95.7 | 115.0 |
| Czechoslovakia | 102.4 | 103.5 | 109.2 |
| German Democratic Republic | 105.8 | 110.5 | 104.5 |
| Hungary | 107.1 | 110.0 | 117.3 |
| Poland | 84.7 | 103.4 | 90.3 |
| Romania | 100.3 | 106.6 | 124.8 |
| Eastern Europe | 95.8 | 105.2 | 105.8 |
| Soviet Union | 96.4 | 89.3 | 104.9 |
| Eastern Europe and the Soviet Union | 96.2 | 93.9 | 105.2 |

*Sources:* As for table 3.2.1.

[a] Basic domestic fodder production includes: feed grains and pulses (nutrient coefficient weighting = 1.0); potatoes and feed roots (nutrient coefficient weighting = 0.2) and roughage (nutrient coefficient = 0.4). Roughage includes only hay from cultivated grassland (annual and perennial), together with silage maize and green fodder. Estimates by the ECE secretariat indicate that these items account for 68–72 per cent of total domestic fodder consumption (in standard oat-based feed units) in eastern Europe and the Soviet Union together – the rest (28–32 per cent) being accounted for by grazing, domestic waste, micro-biological industry feed activities, and of course imported grains, oilseeds and other feed items

TABLE 3.2.11

**Net grain imports of east European countries and the Soviet Union**
(*In thousand tons*)

| | *Grain total* | of which: *Wheat* | of which *Coarse grain* |
|---|---|---|---|
| Bulgaria | | | |
| 1980 | 32 | −478 | 510 |
| 1981 | 628 | −259 | 887 |
| 1982 | −633 | −1 018 | 385 |
| Czechoslovakia | | | |
| 1980 | 1 853 | 536 | 1 317 |
| 1981 | 893 | 215 | 678 |
| 1982 | 778 | −306 | 1 084 |
| German Dem. Rep. | | | |
| 1980 | 4 100 | 426 | 3 674 |
| 1981 | 3 005 | 722 | 2 283 |
| 1982 | 2 625 | 720 | 1 905 |
| Hungary | | | |
| 1980 | −797 | −812 | 15 |
| 1981 | −1 285 | −1 198 | 87 |
| 1982 | −1 563 | −1 146 | −416 |
| Poland | | | |
| 1980 | 7 163 | 3 384 | 3 779 |
| 1981 | 6 826 | 3 448 | 3 378 |
| 1982 | 4 186 | 3 602 | 584 |
| Romania | | | |
| 1980 | 612 | 92 | 520 |
| 1981 | 925 | 800 | 125 |
| 1982 | 259 | 259 | — |
| East European countries | | | |
| 1980 | 12 963 | 3 148 | 9 815 |
| 1981 | 10 992 | 3 728 | 7 438 |
| 1982 | 5 652 | 2 111 | 3 542 |
| Soviet Union | | | |
| 1980 | 25 530 | 13 430 | 10 100 |
| 1981 | 29 553 | 14 890 | 14 663 |
| 1982 | 29 630 | 14 900 | 14 730 |
| East European countries and the Soviet Union | | | |
| 1980 | 38 493 | 16 578 | 19 915 |
| 1981 | 40 545 | 18 618 | 22 101 |
| 1982 | 35 282 | 17 011 | 18 272 |

*Source: FAO Trade Yearbook*, 1982, vol. 36, Rome 1983
*Note:* A minus sign indicates net exports

The structure of domestic fodder crop output has not changed over the last decade. Coarse grain accounts for 55–65 per cent of the total (in fodder units) in Bulgaria, Hungary and Romania, followed by green maize and hay which together contribute 35–40 per cent. The two latter crops, including potatoes (in Poland) constitute more than 60 per cent of fodder output in the other countries – where the share of coarse grain is accordingly lower. In Czechoslovakia, the German Democratic Republic, Poland and the Soviet Union, imports, mostly from the market economies, filled the gap between consumption and domestic output (table 3.2.11).

The decrease in imports over the three years to 1982 reflects improvements in grain output especially in Czechoslovakia, the German Democratic Republic and Poland. A further decrease in 1983 did presumably take place notably in the case of the Soviet Union whose coarse grain output is estimated at more than 100 million tons. Bulgaria, Hungary and Romania probably did not import on a substantial scale, despite decreased output in 1983, since fodder can be supplied from domestic output in 1983/84. The situation in Czechoslovakia and the German Democratic Republic may have been similar if slightly more acute – mainly because of lower yields of catch crops, green and raw fodder in 1983. Hence the coarse grain imports of these two countries in 1983/84 are likely to remain at about the same level as in 1982. In Poland, the discrepancy between livestock feed requirements and domestic fodder production has also probably resulted in a continuation of grain imports at existing levels.

### (iv) Livestock and livestock output

There was no big difference in *livestock production* performance between the countries in 1983. Limited preliminary information indicates that some growth occurred in most countries (table 3.2.1). The small improvement in domestic fodder output in 1982, combined with imports of feed grain and efforts to raise the efficiency of fodder use, permitted the *size of herds* to be maintained or even to increase slightly. The exception was the fall in the number of pigs in Poland (table 3.2.12). The *structure of herds* did not significantly change during 1980–1983. Czechoslovakia further implemented its plan to reduce pig numbers in favour of cattle. After some reduction in 1982, the German Democratic Republic restored both cattle and pig numbers to the high levels of 1981. Hungary's pig herd expanded as planned. In Poland, the decrease in the cattle population was halted and numbers are again increasing. The fall in the number of pigs was expected and resulted from sharply reduced imports of coarse grain. After remaining unchanged in 1980–1981, livestock numbers in the Soviet Union rose for the second consecutive year and are now considerably higher than the average in 1976–1980. The number of poultry also increased since 1980. The higher sheep population is a common feature of all the countries except the Soviet Union.

Output of *livestock products* increased in most countries (table 3.2.12). *Meat output* in Bulgaria in 1983 remained on the level of 1982. Meat production rose moderately in Czechoslovakia and the German Democratic Republic. In Hungary, a significant growth in pigmeat output can be assumed (10–11 per cent). Poland recorded a further slowdown in meat output, due to the sharp reduction in the pig population in previous years. Romania published no figure for total meat production in 1982 and 1983, but official announcements and estimates of the overall development in the livestock sector suggest that livestock output significantly decreased in 1982, but may have recovered moderately in 1983.[197] Meat output in the Soviet Union rose by more than 4 per cent over 1982 after virtually stagnating between 1980 and 1982. *Milk output* increased in all reporting countries, mostly due to higher yields per cow. Higher milk yields were reported also in the German Democratic Republic and Poland following declines in 1981–1982.

Egg production increased in all reporting countries but Poland where, however, the fall in output was virtually halted; a change in the declining trend of Polish output is expected in 1984. Wool production grew moderately throughout the region, following rises in the sheep herds.

### (v) Changes in agricultural policy

Economic policy in agriculture in 1983 addressed a wide range of long-, medium- and short-term measures. A common preoccupation throughout the countries was land improvement, especially irrigation. The losses from drought have increased all countries' awareness of the need to pay due attention to irrigation, to maintain existing equipment and to utilize fully the simple, and up to now underestimated potential of small-scale, local projects.

*Bulgaria* drafted a comprehensive, target-oriented programme for the accelerated development of irrigation up to 1985, mostly with the aim of increasing fodder grain output and reducing variations due to climate. Measures were also taken to improve maintenance and technical services and to increase supplies of spare parts for farm equipment. The first steps to provide conditions for technical re-equipment of agriculture during 1986–1990 have also been taken.

Agricultural policy in *Czechoslovakia* was concentrated on the further implementation of the "Improved System of Planned Management" in agriculture and also on promotion of the envisaged structural changes within and between sub-branches. Investment policy stresses modernization.

Important changes took place in agricultural policy in the *German Democratic Republic* in 1983, following recommendations and decisions taken at the 12th Farming Congress in May 1982. The reform of agricultural producer prices, which were introduced on 1 January 1984, eliminates subsidies on industrial inputs used in agriculture.[198] Higher producer prices, especially for livestock products, aim to balance higher costs and to stimulate fodder production and utilization. Prices within agriculture (between co-operating farms and enterprises) are not fixed by the state; the so-called "agreed prices" are arrived at by mutual agreement between the parties engaged in such inter-farm transactions. The level of agricultural producer prices has been raised by between 50 and 70 per cent. Consumer prices will not be changed. Other measures include the expansion of the responsibilities, rights and obligations of the "co-operation councils". The councils now act as economic management bodies, in contrast to their previous, mostly advisory and consultative role.

*Hungary* announced several changes in agricultural tax and price policy for 1984.[199] Prices of industrial inputs and imported protein fodder have been raised as well as the prices paid for a number of products by state purchasing agencies. The gross income tax of agricultural co-operatives and state farms was reduced by 15–20 per cent to compensate for higher costs. A new financial institution – the Agricultural Development Fund – has been created in order to support the modernization of agricultural and food production. Changes in agricultural policy in *Poland*, introduced at the same time as the reorganization of Polish farming in October 1982, seem to have yielded their first results. The share of optimum-sized farms has increased and for the first time an increase (of 6 per cent) in the rural population in the 18–44-year-old age groups has been noted. A new land tax will come into force on 1 July 1984 in order to even out economic conditions of farms.[200]

Numerous measures of agricultural legislation have been approved in *Romania*.[210] The statutes of agricultural production co-operatives, of inter-co-operative associations, of the unified agricultural-industrial state and co-operative councils, as well as the rules governing relations between these organs have been updated. The state planning system has been enlarged by a new element: in addition to the plan for development of agriculture and the food industry, which is a special document within the national socio-economic plan, a programme of self-management and self-sufficiency has been adopted. This programme aims to ensure appropriate supplies of seasonal agricultural produce, foodstuffs and industrial products during the period from the fourth quarter of 1983 to the third quarter of 1984. Detailed targets have been set for output of private plots. At the present time it is too early to evaluate the effect of these changes in agricultural policy.

A reorganization in the agriculture of the *Soviet Union* took place in 1983, following decisions of the May (1982) plenary session of the Central Committee of the CPSU. Within the management of the agro-industrial complex about 3,100 regional (territorially-based) agro-industrial associations have taken over responsibility and more than 3,200 other managerial organizations were abolished. These measures were designed to strengthen management and planning on a regional and territorial basis. Changes in prices and in the financial regulations, which tend to even out economic conditions for collective and state farms, were introduced.

All countries of the region have also taken different measures to boost agricultural production in household plots and private auxiliary farms.

Within the CMEA framework, a new programme of "comprehensive co-operation measures to improve food supplies to the population of the CMEA member countries" is being drafted. It will update and complement the long-term special programme of co-operation in agriculture approved in 1978.

### (vi) Plan targets in 1984

In line with the objectives laid down in the five-year plans for 1981–1985, the east European countries and the Soviet Union aim to increase the growth rates of agricultural production and to achieve a better balance between crop and livestock output in 1984.

*Bulgaria* plans to raise gross agricultural output by 3 per cent. The development of crop output will be the central priority; as officially announced, a 14.2 per cent growth in grain output is envisaged in 1984–1985.[202] Stress is laid notably on a rapid rise in labour productivity to offset the further decrease of agricultural employment. The main task in

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[197] *Scinteia*, 17 December 1982, and 10 December 1983

[198] *Gesetzblatt der DDR*, Teil I, No. 20, 1983.

[199] *Népszabadság*, 17 January 1984.

[200] *Glos Robotniczy*, 25 November 1983.

[201] *Buletinul Oficial al Republicii Socialiste Romania*, No. 97, 1 November 1982 and No. 18, 28 March 1983.

[202] *Kooperativno selo*, 1 December 1983

*Czechoslovakia* will be to improve self-sufficiency in cereals, hence providing a firmer basis for increases in the output of livestock products. Crop output is planned to rise by 5.2 per cent. As overall output is expected to remain on the level of 1983, this implies a decrease in livestock output by about 4 per cent.[203] Agriculture will take priority in investment, particu-

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[203] *Svět hospodářství*, 28 February 1984.

TABLE 3.2.12

**Livestock and livestock output[a]**

| | Livestock (*thousand head*) | | | | | Livestock output (*thousand tons*) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Country and period | Cattle | *of which:* Cows | Pigs | Sheep and goats | Total conventional units[b] | Meat total | *of which:* Poultry | Milk total | Eggs (*millions*) | Wool |
| *Bulgaria* | | | | | | | | | | |
| 1976–1980[a] | 1 817 | 729 | 3 653 | 10 562 | 4 472 | 746 | 153 | 2 033 | 2 128 | 34 |
| 1980 | 1 843 | 723 | 3 808 | 10 900 | 4 579 | 781 | 145 | 2 217 | 2 405 | 35 |
| 1981 | 1 851 | 725 | 3 844 | 11 216 | 4 607 | 794 | 147 | 2 296 | 2 396 | 35 |
| 1982 | 1 822 | 720 | 3 810 | 11 263 | 4 627 | 807 | 153 | 2 422 | 2 453 | 35 |
| 1983 | 1 816* | 712 | 3 767 | 11 500* | .. | .. | .. | 2 443 | 2 639 | 35 |
| *Czechoslovakia* | | | | | | | | | | |
| 1976–1980[a] | 4 841 | 1 902 | 6 883 | 932 | 6 799 | 1 423 | 159 | 5 696 | 4 691 | 4 |
| 1980 | 5 002 | 1 902 | 7 894 | 967 | 7 218 | 1 499 | 172 | 5 966 | 4 900 | 4 |
| 1981 | 5 103 | 1 905 | 7 302 | 1 011 | 7 108 | 1 526 | 170 | 5 973 | 4 968 | 4 |
| 1982 | 5 131 | 1 899 | 7 126 | 1 042 | 7 108 | 1 413 | 170 | 5 986 | 5 030 | 5 |
| 1983 | 5 190 | 1 900* | 7 070 | .. | .. | 1 465* | .. | 6 530* | 5 300* | .. |
| *German Democratic Republic* | | | | | | | | | | |
| 1976–1980[a] | 5 582 | 2 142 | 11 957 | 1 986 | 9 059 | 1 821 | 137 | 7 299 | 5 287 | 11 |
| 1980 | 5 723 | 2 138 | 12 871 | 2 062 | 9 458 | 1 899 | 145 | 7 243 | 5 514 | 12 |
| 1981 | 5 749 | 2 122 | 12 869 | 2 192 | 9 542 | 1 997 | 149 | 7 195 | 5 670 | 12 |
| 1982 | 5 690 | 2 124 | 12 107 | 2 220 | 9 227 | 1 835 | 147 | 6 821 | 5 696 | 13 |
| 1983 | 5 753 | 2 140* | 12 838 | 2 359 | .. | 1 850* | .. | 7 290* | 5 827 | |
| *Hungary* | | | | | | | | | | |
| 1976–1980[a] | 1 933 | 777 | 8 067 | 2 782 | 5 599 | 1 472 | 325 | 2 292 | 4 475 | 11 |
| 1980 | 1 911 | 765 | 8 265 | 3 105 | 5 662 | 1 566 | 355 | 2 557 | 4 385 | 12 |
| 1981 | 1 945 | 759 | 8 300 | 3 155 | 5 739 | 1 578 | 367 | 2 693 | 4 394 | 14 |
| 1982 | 1 922 | 751 | 9 035 | 3 198 | 5 949 | 1 647 | 400 | 2 755 | 4 440 | 12 |
| 1983 | 1 907 | 750* | 9 833 | .. | .. | .. | .. | .. | .. | .. |
| *Poland*[c] | | | | | | | | | | |
| 1976–1980[a] | 12 054 | 5 820 | 19 635 | 3 513 | 19 453 | 3 064 | 374 | 16 814 | 8 523 | 12 |
| 1980 | 11 337 | 5 666 | 18 734 | 3 490 | 18 662 | 3 141 | 441 | 16 499 | 8 902 | 13 |
| 1981 | 11 467 | 5 706 | 19 081 | 3 510 | 18 299 | 2 526 | 455 | 15 342 | 8 816 | 11 |
| 1982 | 11 022 | 5 686 | 17 564 | 3 678 | 17 486 | 2 579 | 197 | 15 289 | 7 633 | 13 |
| 1983 | 11 083 | 5 677 | 15 847 | .. | .. | 2 300 | .. | 16 000 | 7 600 | .. |
| *Romania* | | | | | | | | | | |
| 1976–1980[a] | 6 433 | 2 634 | 10 543 | 15 615 | 12 096 | 1 623 | 363 | 5 422 | 6 193 | 35 |
| 1980 | 6 485 | 2 670 | 11 542 | 16 212 | 12 554 | 1 769 | 406 | 5 480 | 6 442 | 37 |
| 1981 | 6 303 | 2 592 | 12 464 | 17 748 | 13 111 | 1 786 | 422 | 5 049 | 6 667 | 36 |
| 1982 | 6 200* | 2 550* | 12 340* | 15 600* | .. | .. | .. | .. | .. | .. |
| 1983 | 6 375* | 2 620* | 12 650* | 16 300* | .. | .. | .. | .. | .. | .. |
| *Eastern Europe* | | | | | | | | | | |
| 1976–1980[a] | 32 660 | 14 004 | 60 738 | 35 390 | 57 778 | 10 175 | 1 511 | 39 544 | 31 305 | 107 |
| 1980 | 32 301 | 13 864 | 63 114 | 36 736 | 59 132 | 10 655 | 1 664 | 40 016 | 32 548 | 113 |
| 1981 | 32 418 | 13 809 | 63 860 | 38 832 | 58 403 | 10 207 | 1 708 | 38 548 | 32 911 | 110 |
| 1982 | 31 787* | 13 730* | 61 982* | 37 001* | .. | .. | .. | .. | 32 059 | 117 |
| 1983 | 32 124* | 13 799* | 62 005* | .. | .. | .. | .. | .. | .. | .. |
| *Soviet Union* | | | | | | | | | | |
| 1976–1980[a] | 113 456 | 42 899 | 70 866 | 147 400 | 145 538 | 14 844 | 1 828 | 92 662 | 62 204 | 460 |
| 1980 | 115 057 | 43 389 | 73 382 | 147 487 | 149 297 | 15 073 | 2 139 | 90 900 | 66 882 | 440 |
| 1981 | 115 919 | 43 664 | 73 302 | 148 481 | 150 846 | 15 200 | 2 255 | 88 874 | 69 702 | 456 |
| 1982 | 117 186 | 43 761 | 76 671 | 148 522 | 153 370 | 15 362 | 2 425 | 91 044 | 72 400 | 448 |
| 1983 | 119 400 | 43 800 | 78 500 | 151 400 | .. | 16 000 | .. | 96 400 | 74 400 | 454 |
| *Byelorussian SSR* | | | | | | | | | | |
| 1976–1980[a] | 6 695 | 2 733 | 4 456 | 566 | .. | 884 | 71 | 6 270 | 2 824 | 1.1 |
| 1980 | 6 768 | 2 738 | 4 567 | 569 | .. | 857 | 87 | 6 105 | 3 035 | 1.1 |
| 1981 | 6 883 | 2 745 | 4 708 | 577 | .. | 841 | 99 | 5 821 | 3 119 | 1.1 |
| 1982 | 7 100 | 2 752 | 4 987 | 617 | .. | 875 | .. | 6 075 | 3 241 | 1.1 |
| 1983 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Ukrainian SSR* | | | | | | | | | | |
| 1976–1980[a] | 25 084 | 9 187 | 19 723 | 9 104 | .. | 3 471 | 465 | 21 769 | 13 542 | 28 |
| 1980 | 25 368 | 9 271 | 19 783 | 9 051 | .. | 3 500 | 507 | 21 112 | 14 606 | 27 |
| 1981 | 25 403 | 9 268 | 19 931 | 8 964 | .. | 3 513 | .. | 20 613 | 15 252 | 27 |
| 1982 | 25 500 | 9 200 | 20 800 | 8 900 | .. | 3 526 | .. | 20 598 | 15 561 | 26 |
| 1983 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

TABLE 3.2.12 (*continued*)

| Country and period | Livestock (thousand head)<br>Cattle | *of which:* Cows | Pigs | Sheep and goats | Total conventional units[b] | Livestock output (thousand tons)<br>Meat total | *of which:* Poultry | Milk total | Eggs (*millions*) | Wool |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Soviet Union and Eastern Europe*** | | | | | | | | | | |
| 1976–1980[a] | 146 116 | 56 856 | 131 628 | 182 790 | 203 012 | 25 001 | 3 335 | 132 152 | 93 492 | 564 |
| 1980 | 147 358 | 57 253 | 136 496 | 184 223 | 207 428 | 25 773 | 3 803 | 130 915 | 99 430 | 571 |
| 1981 | 148 337 | 57 473 | 137 162 | 187 313 | 209 249 | 25 446 | 3 956 | 127 061 | 101 558 | 564 |
| 1982 | 148 973* | 57 491* | 138 653* | 185 523* | .. | .. | .. | .. | 103 486 | 565 |
| 1983 | 151 524* | 57 599* | 141 505* | .. | .. | .. | .. | .. | .. | .. |

*Sources:* As for table 3.2.1.
*Note:* Livestock numbers based on the end-year census. Meat is in carcass weight. Eggs include only hen's eggs. Wool is raw wool on a greasy basis.
[a] Annual average over five-year period.
[b] In terms of cows. Conversion ratios: cattle (other than cows) 0.6; pigs 0.3; total sheep and goats 0.1; horses 1.0; poultry 0.02. *Source: Spravochnik po planirovaniyu sel'skogo khoziaistva* (Moscow "Kolos" 1974), p.151.
[c] Goats excluded.

TABLE 3.2.13

**Milk yield per cow**
(*Indices, 1976–1980 = 100*)

| | *1980* | *1981* | *1982* | *1983* |
|---|---|---|---|---|
| Bulgaria | 109.4 | 113.1 | 120.5 | — |
| Czechoslovakia | 105.3 | 105.4 | 105.8 | 111.9 |
| German Dem. Rep. | 100.6 | 99.3 | 94.2 | 100.0* |
| Hungary | 113.6 | 121.2 | 127.3 | — |
| Poland | 99.8 | 95.2 | 94.3 | 99.5* |
| Romania | 99.6 | 93.1 | — | — |
| Soviet Union | 96.9 | 94.5 | 96.3 | 101.9* |

*Source:* As for table 3.2.1.

larly in new machinery supplies. The estimated planned growth of gross agricultural output in the *German Democratic Republic* is around 6 per cent (calculated from published data on the planned growth of crop and livestock output). This would imply a level of output similar to 1981, a year when performance approached the level of the five-year plan targets for 1985. Growth of grain output is the main task. Further increases in the output of livestock products will need to be ensured by higher efficiency, notably the reduction of fodder consumption per unit of output. *Hungary's* plan for 1984 is oriented towards making good the decrease in crop output in 1983 and reverting to the average growth rates achieved between 1980–1982. Gross agricultural output growth is planned at 3–4 per cent, but a 9.8 per cent rise in crop production is targeted. Output of the livestock sector will remain at 1983 levels, but improved performance in livestock husbandry and feeding methods is called for. *Poland* plans to raise gross agricultural production by 1.5–2.5 per cent in 1984. The main priorities are to rebuild the cattle and, especially, the pig herds, to develop poultry production and to expand the domestic fodder base. The increase in gross agricultural production planned in *Romania* has been set at slightly above the average annual target for the current five-year period. Growth of 5.4–6.0 per cent is envisaged in gross agricultural production. High physical plan targets for specific crops and for livestock development indicate an intention to fill the gap between the goals originally planned for the current five-year plan period and actual performance. Gross agricultural output in the *Soviet Union* is planned to increase by some 6 per cent with higher growth rates of crop rather than livestock production. Increments will have to be achieved entirely by increasing labour productivity. About 30 per cent of total investments in the economy are planned for agriculture or agriculture-related development in 1984. Special attention is to be devoted to increasing storage facilities and fodder production. As laid down in the five-year plan and the food programme, specific measures will be implemented to improve the relationship between agriculture and other sectors of the economy. The *Byelorussian SSR* plans to increase gross agricultural production by more than 3 per cent in 1984 – slightly lower than in 1983. A main target will be to overcome wide year-to-year fluctuations. In the *Ukrainian SSR* a moderate growth of agricultural output by nearly 2 per cent is planned, slightly higher than achieved in 1983.

## 3.3 INDUSTRY

The following section reviews recent industrial development in eastern Europe and the Soviet Union. In sub-section (i) the recovery of aggregate industrial growth in 1983 is assessed in the light of the factors which contributed to the acceleration. Industrial growth targets for 1984 are also presented. Sub-section (ii) summarises changes in factor inputs and the improvements recorded in industrial labour productivity growth, and progress in reducing unit costs of production. In sub-section (iii), energy production and consumption are analysed; policy responses to the changed conditions in the availability of energy resources, by country and within the framework of CMEA, are also discussed. Sub-section (iv) presents industrial branch developments in – notably – metallurgy, chemicals, engineering and the light and food industries. Changes in the relationship between the growth of output of producer and consumer goods are also examined. An overview of developments in 1983 and plans for 1984 for each country of the region is given in sub-section (v).

### (i) Growth of industrial output

The year 1983 may be judged as successful in implementing the growth strategies laid down in the current five-year plans. Industrial growth accelerated, the efficiency of input use increased and improvements took place in the foreign trade sector.

Aggregate gross industrial output[204] in the centrally planned economies of eastern Europe and the Soviet Union in 1983 grew at the relatively high rate of 4.2 per cent – almost twice as high as in 1981 and 1982 (table 3.1.1). The actual upswing was about 20 per cent higher than the plan target (3.4 per cent). Growth performance was higher relative to output targets both in the Soviet Union (a 4 per cent actual increase against 3.2 per cent planned) and in eastern Europe (the corresponding figures were 4.6 per cent and 4.1 per cent respectively). The strategy of accelerating industrial growth retained in practically all countries of the region for 1983 was thus implemented. In fact, industrial growth rates in 1983 as compared with 1982 were higher in all countries of the region but Hungary, and ranged between 1 per cent in that country and 6.7 per cent in Poland (table 3.3.1).

Comparisons of individual countries' planned and actual growth performance suggest that industrial growth expectations for 1983 were realistic in most countries. In Czechoslovakia, the German Democratic Republic, Poland and the Soviet Union actual performance was higher than planned, and was no more than slightly below the plan in Bulgaria and Hungary. Only in Romania was actual growth substantially below the output target.

The decelerating trend in industrial growth in eastern Europe and the Soviet Union which started in the late 1970s[205] (chart 3.3.1) has been thus reversed. Taking into account the aggregate 4 per cent industrial growth objective implied by the individual countries' plans for 1984, it seems that the marked slowdown in industrial growth in 1981 and 1982, which resulted mainly from the contraction of Polish industrial output and, elsewhere, from the process of adjustment to changed economic circumstances, has been overcome. This suggests that a shift towards faster pace of industrial growth has taken place throughout the area.

The recovery of aggregate industrial growth, which for the

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[204] Gross industrial production represents the value of all material goods produced in the industrial sector and is determined as the sum of gross output of all industrial enterprises. It thus covers net production plus the value of all inputs from outside the enterprise. This definition is in line with that for gross social product: see *Statisticheski ezhegodnik stran-chlenov SEV*, CMEA Statistical Yearbook, 1982, p. 424.

[205] See *Economic Survey of Europe in 1982*, pp. 149, 153, 154.

TABLE 3.3.1

**Gross output and factor inputs in industry**
(*Average annual percentage change*)

| | Gross output | | Employment | | Fixed assets | Gross fixed capital formation |
|---|---|---|---|---|---|---|
| | Plan | Actual | Plan | Actual | | |
| *Bulgaria* | | | | | | |
| 1976–1980 | 9.2 | 6.0 | . . | 1.5 | 10.0 | 7.7 |
| 1980 | 6.3 | 4.2 | 1.7 | 1.1 | 10.2 | 17.4 |
| 1981 | 5.6 | 4.8 | . . | 1.5 | 8.1 | 8.0 |
| 1982 | 4.5 | 4.6 | . . | 0.8 | 9.8 | 10.1 |
| 1983 | 4.8 | 4.6 | . . | 1.8 | . . | . . |
| 1984 | 5.0 | . . | . . | . . | . . | . . |
| 1981–1985 | 5.1 | . . | . . | . . | . . | . . |
| *Czechoslovakia* | | | | | | |
| 1976–1980 | 5.7–6.0 | 4.7 | . . | 0.7 | 6.1 | 6.9 |
| 1980 | 4.0 | 3.5 | 0.8 | 0.7 | 5.9 | 3.6 |
| 1981 | 2.7 | 2.1 | 0.5 | 0.4 | 6.7 | –1.4 |
| 1982 | 0.6* | 1.1 | . . | 0.5 | 6.7 | –4.4 |
| 1983 | 2.4 | 2.7 | . . | 0.5 | . . | . . |
| 1984 | 2.9 | . . | . . | . . | . . | . . |
| 1981-1985 | 2.7–3.4 | . . | 0.2[a] | . . | . . | . . |

TABLE 3.3.1 (*continued*)

| | Gross output | | Employment | | Fixed assets | Gross fixed capital formation |
|---|---|---|---|---|---|---|
| | Plan | Actual | Plan | Actual | | |
| *German Democratic Republic*[b] | | | | | | |
| 1976–1980 | 6.0 | 5.0 | . . | 0.5 | 6.0 | 5.0 |
| 1980 | 4.7 | 4.7 | 0.2[a] | 0.2 | 5.6 | 4.2 |
| 1981 | 5.0 | 4.7 | . . | 0.9 | 6.2 | 3.2 |
| 1982 | 4.6 | 3.2 | . . | 0.6 | 5.0 | −1.9 |
| 1983 | 3.8 | 4.1 | . . | . . | . . | . . |
| 1984 | 3.6 | . . | . . | . . | . . | . . |
| 1981–1985 | 5.1 | . . | . . | . . | . . | . . |
| *Hungary* | | | | | | |
| 1976–1980 | 6.0 | 3.4 | . . | −1.6 | 7.5 | 3.6 |
| 1980 | 3.5–4.0 | −2.0 | −0.5[a] | −2.6 | 6.4 | −11.5 |
| 1981 | 3.0–3.5 | 2.8 | . . | −2.0 | 4.3 | −8.1 |
| 1982 | 2.0–2.5 | 2.5 | . . | −2.6 | 4.9 | 0.2 |
| 1983 | 1.0–2.0 | 1 | . . | −2.3 * | . . | . . |
| 1984 | 1.5–2.0 | . . | −(1.5–2) | . . | . . | . . |
| 1981–1985 | 3.5–4.0 | . . | . . | . . | . . | . . |
| *Poland* | | | | | | |
| 1976–1980 | 8.2–8.5 | 4.7 | . . | 0.4 | 8.2 | −5.5 |
| 1980 | 3.0–4.2 | — | −0.2–1.3[a] | 0.2 | 4.6 | −13.9 |
| 1981 | . . | −10.8 | . . | −0.1 | 3.4 | −27.2 |
| 1982 | . . | −2.1 | . . | −4.8 | 2.2 | −13.2 |
| 1983 | 3.7–4.0[c] | 6.7[c] | . . | −1.0 | . . | . . |
| 1984 | 4.5 | . . | . . | . . | . . | . . |
| 1981–1985 | . . | . . | . . | . . | . . | . . |
| *Romania* | | | | | | |
| 1976–1980 | 10.2–11.2 | 9.5 | 1.6–2.1 | 3.5 | 10.4 | 7.8 |
| 1980 | 11.4 | 6.5 | 2.5[a] | 3.2 | 10.0 | 2.5 |
| 1981 | 8.1 | 2.6[b] | 1.0 | 2.0 | 9.1 | −5.8 |
| 1982 | 4.7[b] | 1.1[b] | . . | 2.1 | 9.5 | −9.5 |
| 1983 | 6.6[b] | 4.8[b] | . . | 2.0[a] | . . | . . |
| 1984 | 6.7[b] | . . | . . | . . | . . | . . |
| 1981–1985 | 7.6 | . . | 0.6[a] | . . | . . | . . |
| *Soviet Union* | | | [a] | | | |
| 1976–1980 | 6.3 | 4.5 | 0.8 | 1.6 | 7.6 | 5.3 |
| 1980 | 4.5 | 3.6 | 0.7 | 1.1 | 7.4 | 3.1 |
| 1981 | 4.1 | 3.4 | 0.5 | 0.9 | 7.4 | 4.0 |
| 1982 | 4.7 | 2.9 | 0.6 | 1.0 | 7.0 | 2.8 |
| 1983 | 3.2 | 4.0 | 0.3 | 0.5 | . . | . . |
| 1984 | 3.8 | . . | 0.4 | . . | . . | . . |
| 1981-1985 | 4.7 | . . | 0.5 | . . | . . | . . |
| *Byelorussian SSR* | | | [a] | [a] | | |
| 1976–1980 | 7.4 | 7.2 | 1.9 | 2.4 | 9.4 | 5.5 |
| 1980 | 5.9 | 6.0 | 1.6 | 1.9 | 8.2 | −2.5 |
| 1981 | 4.1 | 5.0 | 1.1 | 1.6 | 6.5 | 10.1 |
| 1982 | 4.3 | 4.7 | 1.3 | 1.9 | 7.0 | 0.4 |
| 1983 | 3.4 | 4.9 | 0.9 | 1.1 | . . | . . |
| 1984 | 4.1 | . . | . . | . . | . . | . . |
| 1981–1985 | 5.1 | . . | 1.1 | . . | . . | |
| *Ukrainian SSR* | | | [a] | [a] | | |
| 1976–1980 | 5.9 | 3.9 | 0.7 | 1.6 | 6.8 | 4.3 |
| 1980 | 4.0 | 2.2 | 1.3 | 1.1 | 6.7 | 3.7 |
| 1981 | 3.5 | 2.8 | . . | 0.8 | 6.0 | 0.1 |
| 1982 | 4.0 | 2.9 | 1.6 | 1.2 | 5.7 | 0.8 |
| 1983 | 2.8 | 4.3 | 0.8 | 0.5 | . . | . . |
| 1984 | 3.1 | . . | 0.4 | . . | . . | . . |
| 1981–1985 | 4.2 | . . | 1.0 | . . | . . | . . |

*Sources:* National statistics, plans and plan-fulfilment reports

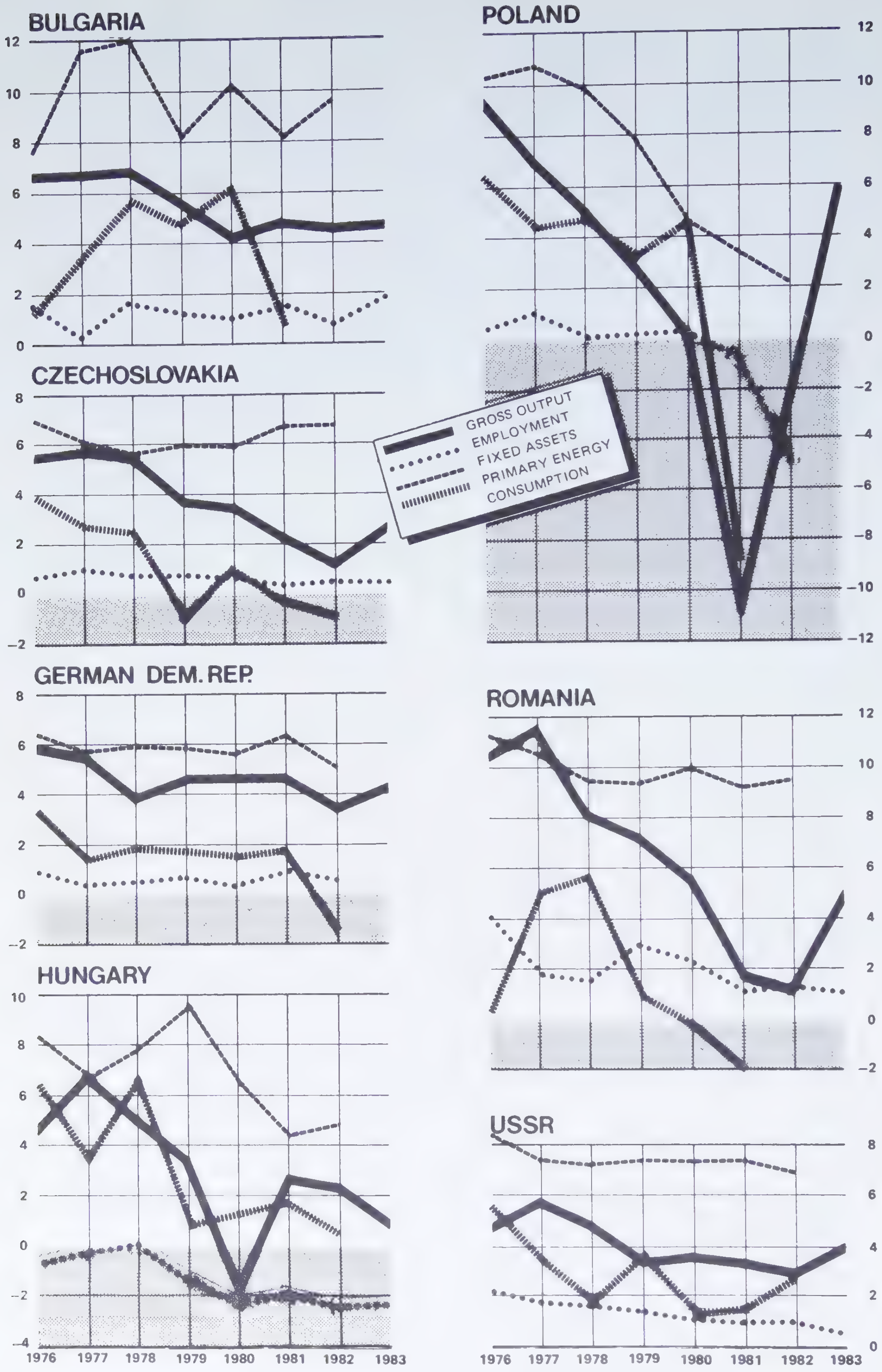
*Note:* Growth of gross fixed capital formation in 1976-1980 was calculated on the basis of the annual average during the period compared with the annual average in 1971-1975 expressed as an average annual compound rate

[a] Derived from output and productivity data

[b] Marketable production

[c] Sales.

## CHART 3.3.1
## GROWTH OF GROSS INDUSTRIAL OUTPUT AND FACTOR INPUTS
(Annual percentage change)



seven countries combined rose from 2.4 per cent in 1982 to 4.2 per cent in 1983, was quite substantial – particularly seen against the background of growth-constraining internal and external conditions which, for the majority of them, characterized the late 1970s and the beginning of the 1980s.

Industrial output changes reflect a variety of mutually interlinked *factors*. Some of them have short-term and others long-term effects. Several different approaches to the study of growth factors can be used, depending on the objective of the exercise.

An important explanatory factor of the upturn in industrial growth in 1983 was the implementation of economic policy to raise efficiency and encourage a shift towards a predominantly intensive pattern of industrial growth. The improvement was, in fact, linked with overcoming certain growth constraints, notably by reducing the consumption of fuels, energy and raw materials per unit of output. A detailed analysis of these developments is included in sub-section (ii) below.[206]

Other factors which contributed positively to industrial expansion in 1983 include:

- substantial recovery in industrial output in Poland which, after stagnation in 1980 and an absolute 13 per cent decline in 1981–1982, recorded a 6.7 per cent increase in 1983 – the highest in the region;
- marked increases in gross agricultural production of the region in 1982 and 1983 (4.2 per cent and 2.5 per cent respectively) which reversed the negative effects on total industrial growth of the falling supply of inputs of agricultural origin during the previous three years of poor agricultural performance;
- past investment activity, which had a twofold impact on industrial growth: on the one hand, production capacity in some bottleneck branches (energy and chemicals) was increased by the bringing into operation of new capacities started several years ago, while on the other, the slight recovery in investment growth in 1983, together with the continued rise in the share of machines and equipment in the total, stimulated demand for engineering products;
- the favourable developments in the foreign trade sector, which permitted total imports to be improved, and eased constraints on the development of some import-dependent industrial branches – in particular in the most import-dependent east European countries;
- finally, it is worth noting that mild weather conditions during the winter of 1982/1983 improved the energy situation.

Improved industrial growth in 1983 had some positive consequences for the region as a whole. In the first place it reduced bottlenecks and imbalances in the supplies of material inputs in the economy, and itself reflected the effects of policy measures to decrease energy, raw material and other material inputs per unit of output. Secondly, increased supplies of consumer goods improved the balance between consumer goods availabilities and money incomes of population. Third, trade export policy provided for higher growth rates of industrial exports than of gross industrial production, which contributed significantly to the improved foreign trade balance. Fourth, the recovery of engineering production, the most dynamic industrial branch, removed some constraints on investment activity.

*Plans for 1984* envisage a 4 per cent growth rate of aggregate industrial output in the seven countries of the region. This is considerably higher than in 1981-1982 (2.3 per cent on average), but is slightly lower than the 4.2 per cent recorded in 1983. Individual countries' expectations in fact differ. Some acceleration over 1983 is expected in Bulgaria, Czechoslovakia and Romania. In Poland and the Soviet Union, 1984 plans envisage an upswing against the previous year's target but a slowdown – albeit rather small – in the case of the Soviet Union as compared with actual growth in 1983. In Hungary, industrial growth is expected to be about the same as in 1983. Only in the German Democratic Republic is slightly slower growth targeted for 1984.

The achievement of industrial output targets set for 1984 will depend on various factors, some of which cannot be assessed with certainty. Moreover, some growth-constraining factors will persist into 1984 – notably shortages of energy and raw materials, rather small increases in industrial employment and restrictive import and investment policies. Weather conditions and agricultural performance may also affect industrial growth. The key element in achieving the targets will be the increase in the efficiency with which productive resources – whether material inputs or labour – are used. Indeed, progress in this respect is considered as the *sine qua non* for ensuring high and sustained industrial growth rates under present conditions. Improvements in the structure of industrial growth and foreign trade are designed for the same end. Finally, a more rapid introduction of technical innovations, to be stimulated by a greater degree of international technical cooperation as well as changes in planning and management, will be essential to carry the "intensification" strategy further over the longer term.

### (ii) Factor inputs and efficiency

The declining trend of industrial efficiency growth, analysed in previous editions of the *Economic Survey of Europe*, was reversed in 1983. This reflected, in part, the substantial acceleration in industrial growth and also slow increases of production inputs.

Comprehensive assessment of global efficiency changes in the centrally planned economies poses a number of methodological problems. Total efficiency changes should be measured on the basis of changes in output relative to inputs. Empirical analysis on these lines has so far been complicated by many problems, in particular by the difficulty of aggregating production inputs. Despite the growing attention paid to research on total factor productivity in the economic literature of the centrally planned economies, analytical studies of efficiency are still mostly restricted to measurements of partial efficiency changes. In practice, this means labour and capital productivity, and also the material-intensity of production.

*Labour productivity growth* in industry recorded high annual average growth rates over the 1970s as a whole (on average 4.6 per cent annually) but slowed down between the first and second halves (on average from 5.9 to 3.4 per cent respectively). In 1981, the declining trend in labour productivity growth continued and reached the historically very low level of 1.5 per cent for the region. In 1982, a 2 per cent increase in labour productivity reflected a slight acceleration of industrial output growth (from 2.2 per cent in 1981 to 2.4 per cent in 1982) and a further slowdown in industrial employment growth from 0.7 per cent in 1981 to only 0.4 per cent in 1982. Plans for 1983 foresaw a further acceleration of labour productivity growth. These expectations probably materialized; assuming a continuation of the trend in industrial employment growth, industrial labour productivity rose by about 3.7 per cent in 1983 in the east European countries and the Soviet Union combined. This would be 1.7 percentage points higher than (or almost double) the rate of growth in the preceding year, and is also above the 3.4 per cent annual average in 1976-1980. The acceleration again reflects, above all, the strong revival of industrial output growth. The labour productivity rise in 1983 accelerated in Czechoslovakia, the German Democratic Republic, Poland, Romania and the Soviet Union. In Bulgaria and Hungary, preliminary data suggest that industrial labour productivity growth decreased against 1982. In the first case this reflects a substantial increase in industrial employment and in the latter the decline in output growth (table 3.3.2).

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[206] Improvements in efficiency growth (both in labour productivity and material intensity) were explicitly laid down in the plan fulfilment reports for 1983 and plans for 1984 in the majority of countries of the region. Nevertheless, it was said that in many cases progress is still slow and does not correspond with the requirements of a predominantly intensive pattern of industrial growth. See, *inter alia*, the report of M. Jakeš to the 8th Session of the Central Committee of the Communist Party of Czechoslovakia, where he stated that "analysis and experience show that the key problem is the inadequate and slow application of scientific and technical progress" *Czechoslovak Economic Digest*, No. 6, 1983, p 8

These improvements in output and hence in labour productivity growth were, *first* due to the partial removal of constraints on the supply side,[207] through improvements in the structure of overall growth, savings in energy and material consumption, better agricultural output and improved imports.[208] As reported, energy and some other material input supplies improved in 1983 against 1982 in most countries of the region (see the following sub-sections on the material intensity of production and energy production and consumption). *Second*, numerous policy measures aimed at increasing labour productivity have been adopted in recent years, notably in the sphere of labour organization and in the development of planning and incentive systems. Some policy responses to labour productivity issues were of a short-term character and may have brought immediate effects in the course of 1983. Some of them have a longer-term character but are expected to bring productivity gains in the near future.[209] The increased attention paid to labour productivity growth in all countries of the region, which was manifested by governmental action to speed up the application of science and technology, to secure balanced economic development, to expand the role of foreign trade, and especially intra-CMEA exchanges, to strengthen labour discipline and motivation and to improve the quality of products indicate the importance attached to ensuring a rising trend in labour productivity growth.

TABLE 3.3.2

**Productivity indicators in industry**
(*Average annual percentage change*)

| | Labour productivity[a] | Capital intensity[b] | Capital productivity[c] | Total productivity[d] |
|---|---|---|---|---|
| *Bulgaria* | | | | |
| 1976–1980 | 4.4 | 8.4 | −3.6 | 2.0 |
| 1980 | 3.1 | 9.0 | −5.4 | 0.5 |
| 1981 | 3.2 | 6.5 | −3.0 | 1.3 |
| 1982 | 3.8 | 8.9 | −4.7 | 1.2 |
| 1983 | 2.8 | .. | .. | .. |
| *Czechoslovakia* | | | | |
| 1976–1980 | 4.0 | 5.3 | −1.5 | 2.3 |
| 1980 | 2.8 | 5.2 | −2.5 | 1.2 |
| 1981 | 1.7 | 6.3 | −4.3 | −0.1 |
| 1982 | 0.6 | 6.2 | −5.2 | −1.1 |
| 1983 | 2.2 | .. | .. | .. |
| *German Democratic Republic* | | | | |
| 1976-1980 | 4.5 | 5.4 | −1.0 | 2.8 |
| 1980 | 4.5 | 5.4 | −0.8 | 2.9 |
| 1981 | 3.8 | 5.2 | −1.0 | 2.3 |
| 1982 | 2.6 | 4.3 | −1.7 | 1.3 |
| 1983 | 3.5* | .. | .. | .. |
| *Hungary* | | | | |
| 1976–1980 | 5.1 | 9.2 | −3.8 | 2.4 |
| 1980 | 0.6 | 9.2 | −7.9 | −2.0 |
| 1981 | 4.9 | 6.4 | −1.4 | 2.9 |
| 1982 | 5.2 | 7.7 | −2.3 | 2.9 |
| 1983 | 3.4* | .. | .. | .. |
| *Poland* | | | | |
| 1976–1980 | 4.3 | 7.8 | −3.2 | 2.0 |
| 1980 | −0.2 | 4.4 | −4.4 | −1.5 |
| 1981 | −10.7 | 3.5 | −13.7 | −11.6 |
| 1982 | 2.8 | 7.3 | −4.2 | 0.7 |
| 1983 | 7.8 | .. | .. | .. |
| *Romania* | | | | |
| 1976–1980 | 5.8 | 6.7 | −0.8 | 3.8 |
| 1980 | 3.2 | 6.6 | −3.2 | 1.3 |
| 1981 | 0.6 | 7.0 | −6.0 | −1.4 |
| 1982 | −1.0 | 7.2 | −7.7 | −3.0 |
| 1983 | 2.7 | .. | .. | .. |
| *Soviet Union* | | | | |
| 1976-1980 | 2.8 | 5.9 | −2.9 | 1.1 |
| 1980 | 2.5 | 6.0 | −3.3 | 0.8 |
| 1981 | 2.5 | 6.4 | −3.7 | 0.6 |
| 1982 | 1.9 | 5.9 | −3.8 | 0.2 |
| 1983 | 3.5 | .. | .. | .. |

*Sources*. As for table 3.3.1
[a] Gross output per employee
[b] Fixed assets per employee
[c] Gross output – fixed assets ratio
[d] The figures for total productivity were obtained by weighting the growth rates of labour productivity and capital productivity in the proportions of 0.7 in the case of the former and 0.3 in the case of the latter. The relationship approximates that between the wage fund, imputed capital charge and an allowance for depreciation of fixed assets

Plan targets for industrial *labour productivity growth in 1984* were reported only by some countries of the region. In the majority – *Bulgaria*, *Czechoslovakia*, *Hungary* and *Romania* – the expectation of higher industrial output growth implies an upturn in industrial labour productivity, since a stable or declining trend of industrial employment growth is expected. In the *Soviet Union*, the labour productivity target ranks among the central objectives of the plan.[210] Industrial labour productivity is to rise by 3.4 per cent, approximately the same as in 1983 and substantially higher than the average for 1981-1983 (2.6 per cent). In the *German Democratic Republic* and *Poland*, the envisaged lower industrial output growth targets may lead to a slight deceleration in industrial labour productivity growth in 1984 as compared with the preceding year. The attainment of labour productivity objectives for 1984 would mark an important step in implementing intensification policy.

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[207] These constraints were discussed in the *Economic Survey of Europe in 1982*, pp. 154, 155.

[208] However, the situation among the countries in this respect differed and some shortages of material inputs persisted. Criticism addressed to such problems may be found in the report of N.K. Baibakov and S. Potáč, Chairmen respectively of the State Planning Committees of the Soviet Union and of Czechoslovakia. See *Ekonomicheskaya gazeta*, No. 2, 1984, p. 2 and *Rudé právo*, 25 November, 1983, p. 3

[209] Of the numerous policy measures adopted in the course of 1983, see for example the decree of the Central Committee of the Communist Party of the Soviet Union and the Council of Ministers on "Measures for speeding up scientific and technical progress in the national economy", *Ekonomicheskaya Gazeta*, No. 36, September 1983, p.5. See also a report on the 8th Session of the Central Committee of the Communist Party of Czechoslovakia in June 1983 devoted to the accelerated application to production of the results of science and technology, *Rudé právo*, 17 June, 1983. New laws and decrees were also promulgated in the Soviet Union to promote labour productivity growth, notably the law on "Labour collectives and the enhancement of their role in the management of enterprises, institutions and organizations", *Pravda*, June 19, 1983, pp. 1-3. Two decrees, "Strengthening socialist discipline" and "Additional measures for strengthening labour discipline", are designed to improve labour morale and discipline, *Pravda*, 7 August 1983, p. 1

[210] See report of N.K. Baibakov on the State plan of economic and social development of the USSR in 1984, *Ekonomicheskaya gazeta*, No. 2, January 1984, p. 3.

The contribution of labour productivity to industrial output growth in 1983 rose in practically all the countries of the region (table 3.3.3). This resulted from a higher rate of growth of industrial labour productivity and declining growth rates in industrial employment.

Growing importance is attached to increased efficiency in the use of material resources (fixed assets and other material inputs) within the overall policy of improving the efficiency of resource use. This reflects the fact that energy and material resources have become more costly and capital-intensive, while increases in fixed assets are limited by constraints on investment. Under these conditions, higher capital productivity and lower unit material costs of production are increasingly stressed in both economic literature and planning decisions.[211]

*Capital productivity* in industry declined in absolute terms in the second half of the 1970s in all countries of the region.[212] This trend continued into 1981 and 1982 (table 3.3.2). In 1983 some improvement can be assumed, given the substantial upturn in industrial output growth on the one hand and slower fixed assets growth on the other.[213] In 1984 this positive trend could continue if measures taken to reverse negative trends in capital productivity (faster write-off of obsolete equipment, incentives to encourage fuller utilization of capacities) are fully implemented.

TABLE 3.3.3

**Contribution of labour productivity to the growth of industrial output**
(*Percentage shares*)

| | 1976–1980 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|
| Bulgaria | 73 | 74 | 67 | 83 | 61 |
| Czechoslovakia | 85 | 80 | 81 | 55 | 81 |
| German Democratic Republic | 90 | 96 | 82 | 81 | 85 |
| Hungary | 152 | −30 | 175 | 208 | 340 |
| Poland | 91 | . . | 99 | . . | 116 |
| Romania | 61 | 49 | 18 | . . | 70 |
| Soviet Union | 62 | 69 | 73 | 65 | 88 |

*Sources:* As for table 3.3.1.

*Note:* Due to differences in coverage and methodology applied, figures in this table may differ slightly from officially reported data. When industrial employment decreases in absolute terms the proportion of output growth accounted for by rising labour productivity is more than 100 per cent.

Fundamental changes in the availability of energy, raw materials and other material resources in recent years have highlighted the adverse consequences of the "extensive" pattern of economic growth, when output increases have often required a proportionate or even greater than proportionate rise in the use of productive resources. This type of industrial growth caused balance-of-payments problems, strains in investment allocation and in the distribution of the labour force, as well as shortages of inputs. These set up chain reactions which affected production throughout the economies of the region. A reduction in inputs per unit of output was clearly an important prerequisite of industrial output and of industrial labour productivity growth.

TABLE 3.3.4

**Ratio of net to gross industrial output**

| | Gross output | Net output | Ratio of net to gross industrial output growth |
|---|---|---|---|
| | Annual percentage change | | |
| *Bulgaria* | | | |
| 1976–1980 | 6.0 | 6.8 | 1.13 |
| 1980 | 4.2 | 0.4 | 0.09 |
| 1981 | 4.8 | 5.6 | 1.17 |
| 1982 | 4.6 | 9.8 | 2.13 |
| *Czechoslovakia*[a] | | | |
| 1976–1980 | 3.5 | 3.5 | 1.00 |
| 1980 | 2.1 | 2.5 | 1.19 |
| 1981 | — | −0.1 | . . |
| 1982 | 1.1 | 0.5 | 0.48 |
| *German Democratic Republic*[a] | | | |
| 1976–1980 | 4.9 | 5.0 | 1.02 |
| 1980 | 4.7 | 5.5 | 1.17 |
| 1981 | 5.1 | 5.5 | 1.08 |
| 1982 | 3.2 | 3.5 | 1.09 |
| *Hungary*[a] | | | |
| 1976–1980 | 3.4 | 4.0 | 1.18 |
| 1980 | −2.0 | −2.1 | 1.05 |
| 1981 | 2.8 | 4.8 | 1.71 |
| 1982 | 2.5 | 5.4 | 2.16 |
| *Poland* | | | |
| 1976–1980 | 4.7 | 2.6 | 0.55 |
| 1980 | — | −4.1 | . . |
| 1981 | −10.8 | −14.6 | . . |
| 1982 | −2.1 | −4.5 | . . |
| *Romania*[a] | | | |
| 1976–1980 | 7.3 | 8.4 | 1.15 |
| 1980 | 5.2 | 6.4 | 1.23 |
| 1981 | 1.6 | 3.9 | 2.43 |
| 1982 | 1.3 | 1.8 | 1.38 |
| *Soviet Union* | | | |
| 1976-1980 | 4.5 | 4.9 | 1.09 |
| 1980 | 3.6 | 3.8 | 1.06 |
| 1981 | 3.4 | 3.5 | 1.03 |
| 1982 | 2.9 | 3.2 | 1.10 |

*Sources:* As for table 3.3.1.

[a] Based on national accounts statistics.

Reductions in the *material intensity of industrial production* thus recently became an important objective of policy-makers. Statistical analysis of progress in this area faces a number of methodological problems. Coefficients of material intensity of production can be expressed in terms of material input consumption per unit of output or in the form of ratios between total inputs and total output changes. When changes in gross and net output are compared, the difference between the two roughly indicates changes in the efficiency of material input use over time.[214]

Viewed on this basis, the material intensity of industrial production in 1981 and 1982 improved in most countries of the region; that is, the growth of net industrial output surpassed that of gross industrial output (table 3.3.4). The ratio of net to gross industrial output in 1982 increased against 1981 in Bulgaria, the German Democratic Republic, Hungary and the Soviet Union.

A more detailed insight into the material intensity of production is possible by examining changes in the consumption of selected commodities in physical terms (energy, metals, etc.) – either in absolute terms or in relation to output. Some information in the latter respect was given in the plan fulfilment reports for 1983 of a few countries of the region. In Czechoslovakia, the consumption of metals per unit of engineering production decreased by 4.9 per cent. Important achievements were also reported in the German Democratic Republic; the specific consumption of main energy and other material inputs per unit of output decreased by 6 per cent in 1982 and by a further 7 per cent in 1983. In the Soviet Union, material input savings in 1983 reached 2 billion roubles – about 0.3 per cent of gross industrial production. In Bulgaria a 0.9 per cent decrease of material inputs per unit of output in 1983 was reported.

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[211] See, *inter alia*, V. Efimov: "Efficiency of material intensity", *Planovoe Khozyaistvo*, No. 8, 1983.

[212] *Op. cit.*, pp. 155, 156.

[213] Although no data are available on fixed asset changes for 1983, slower rates of investment growth in recent years may now begin to be reflected in slower fixed asset growth following the time lag between investment starts and the putting into operation of new capacity. If so, ECE's assessment that an acceleration of industrial growth in 1983, combined with a slowdown in the growth of fixed assets, might improve capital performance for the year was correct. See *Economic Survey of Europe in 1982*, p.156.

[214] However, it should be noted that changes in the volume of intermediate consumption (the difference between gross and net output) may be influenced not only by real changes in material inputs but also by other factors such as changes in co-operation among enterprises and structural shifts in the pattern of output.

Plans for 1984 envisage further decreases in costs per unit of industrial production and measures were adopted by all countries of the region to reduce energy, raw material and other material consumption. They took varied forms, ranging from comprehensive programmes for rational utilization of material resources, to international co-operation among CMEA countries in the development of the energy and raw material sectors. They also covered the promotion of scientific and technical development, the production of resource-saving machinery and equipment as well as incentives to encourage cost reductions.

### (iii) Energy production and consumption

The declining growth rates of primary energy production, which became evident throughout the region in the second half of the 1970s and was caused mainly by the need to work lower-yielding deposits, continued into 1981. It seems likely that the year 1981 was, in fact, critical for the fuel and energy sector in all the countries concerned. Primary energy production in that year increased by only 0.6 per cent, as against 2.8 and 2.3 per cent in 1979 and 1980 respectively. Even these results reflected mainly performance in the Soviet Union, Romania and the German Democratic Republic, where primary energy production rose by 1.8, 4.2 and 3.6 per cent respectively. The other countries of the region recorded falls in primary energy production (table 3.3.5). The decline was particularly sharp in Poland (14.2 per cent).

Growth of primary energy consumption – usually closely correlated with that of primary energy production – fell in 1981 to a historically very low rate, estimated at 0.4 per cent for the region as a whole. The availability of fuel and energy thus became a crucial determinant of overall economic development, and was, indeed, an important constraint on NMP and industrial growth. Very low increases in industrial and NMP growth in 1981 (2.2 and 1.7 per cent respectively) indicate the close relationship between energy consumption and economic growth.

Particular attention was therefore devoted to energy problems from the beginning of the 1980s in all countries of the region. Plans for 1981-1985 called for the promotion of energy production on one hand and for economies in energy and fuel utilization on the other. All the five-year plans envisaged substantial savings in fuel and energy, and most countries adopted long-term energy programmes.[215]

These measures brought positive results in 1982 and 1983. In the former year, a sharp increase in primary energy production to 3.4 per cent took place (from 0.6 per cent in 1981). Primary energy production growth accelerated in all countries but Romania. It was very strong indeed in Poland where a 14.2 per cent decline in 1981 was almost wiped out by a 13.9 per cent increase in 1982. Thus, while Polish energy production performance negatively influenced the region's overall primary energy production growth in 1981, it made a considerable positive contribution to overall performance in 1982. The revival of primary energy production, together with the fuel and energy economies reported, eased energy supply constraints. It therefore contributed to the slight acceleration of NMP and industrial growth in 1982 and to the more substantial upswing of 1983.

Although only partial data are available on primary energy consumption growth in 1982, it is sufficient to show that the energy situation differed among individual countries. In the Soviet Union, the 2.5 per cent increase in primary energy consumption was close to the 2.8 per cent rise in primary energy production. A small, 0.5 per cent rise in consumption was recorded by Hungary. In Czechoslovakia and the German Democratic Republic, primary energy consumption was

TABLE 3.3.5

**Primary energy production and consumption**
(*Average annual percentage change*)

| | 1976–1980 | | 1980 | | 1981 | | 1982 | |
|---|---|---|---|---|---|---|---|---|
| | Production | Consumption | Production | Consumption | Production | Consumption | Production | Consumption |
| Bulgaria | 2.1 | 3.9 | 7.1 | 6.2 | −1.2 | 0.7 | 9.7 | . . |
| Czechoslovakia | 1.3 | 2.1 | −1.1 | 1.0 | −0.5 | 0.2 | 1.1 | −0.9 |
| German Democratic Republic | 1.2 | 2.0 | 0.6 | 1.4 | 3.6 | 1.9 | 3.2 | −1.8 |
| Hungary | 1.5 | 3.5 | −1.8 | 1.1 | −0.3 | 1.7 | 3.6 | 0.5 |
| Poland | 2.0 | 4.6 | −4.2 | 4.8 | −14.2 | −9.0 | 13.9 | . . |
| Romania | 0.4 | 4.6 | 1.6 | 0.9 | 4.2 | −0.1 | 0.2 | . . |
| Soviet Union | 4.2 | 2.9 | 3.2 | 1.3 | 1.8 | 1.4 | 2.8 | 2.5 |
| Eastern Europe | 1.4 | 3.4 | −1.3 | 2.6 | −4.2 | −2.2 | 6.3 | . . |
| Eastern Europe and the Soviet Union | 3.6 | 3.1 | 2.3 | 1.7 | 0.6 | 0.4 | 3.4 | . . |

*Source*: *CMEA Statistical Yearbook*, various years; *Yearbook of World Energy Statistics*, United Nations, various years; national yearbooks and plan fulfilment reports

*Note*: Data on primary energy production calculated by ECE secretariat in standard coal equivalent (coefficients vary across countries). Data on primary energy consumption taken from *Yearbook of World Energy Statistics* up to 1981 (except for the Soviet Union in 1981) and for 1982 from national statistics (in various national units). Due to methodological differences, data in different sources are not always comparable reported to have fallen at the same time as improved production performance. An explanation may be found in the 10 per cent reduction in imports of oil from the Soviet Union in both countries.[216]

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[215] See *Economic Survey of Europe in 1982*, pp. 157–158.

Plans for 1983 called for further improvements in energy use which were implemented in most countries. The plan fulfilment reports indicate progress in promoting both primary energy production and reducing consumption. Thus, in *Bulgaria*, production of electricity and heating in 1983 grew by 4.9 per cent. In *Czechoslovakia*, planned energy output targets were overfulfilled in 1983. Coal extraction rose by 2.2 per cent and electricity generation by 2 per cent (in nuclear power stations by 5.3 per cent) against the 1 per cent increase laid down in the plan. The state target-oriented programme for rationalizing fuel and energy consumption is being implemented, and savings in 1983 amounted to 2.5 million tonnes of coal equivalent. In the *German Democratic Republic*, the envisaged 3.7 per cent growth in marketable production by enterprises under the Ministry of Coal and Energy was overfulfilled by 1.6 per cent in 1983. Higher output of brown coal and domestic natural gas allowed energy imports to be reduced. Stress was again laid on energy saving. The share of domestic resources in energy consumption rose and energy savings, especially in transport, were achieved. The replacement of oil by brown coal for heating purposes, which began in 1982, was in general finished in 1983. In *Hungary*, the output of the mining industry[217] recorded a 3.2 per cent decline in 1983 as compared with 1982. In coal and natural gas extraction plans were not achieved. Electricity generation increased by 4.1 per cent and energy consumption per unit of output fell by 1.5–2 per cent. In *Poland*, hard coal production grew in 1983 by 0.9 per cent and brown coal extraction by 13 per cent. Coal exports rose by 21.2 per cent. Natural gas extraction fell by 1.1 per cent but electricity generation rose by 7 per cent. It is reported that the country's requirements for coal and electricity were nearly met in 1983. Judging by the plan fulfilment report data and some shortfalls reported on energy supplies in 1983, ambitious production targets set by *Romania* in the 1983 plan for the energy sector[218] were not fully met. Significant improvements were recorded only in coal extraction and in electricity generation from coal – which increased by 14.4 per cent in 1983. In the *Soviet Union*, the energy sector as a whole overfulfilled the production targets for 1983.[219] In 1983, gas production rose by 7 per cent, electricity generation by 4 per cent and oil production by 0.6 per cent. Only coal extraction was below the plan target, falling by 0.3 per cent.

One item on the agenda of the 37th Session of the CMEA, held in Berlin in October 1983, was the question of co-operation between member-countries on energy questions. Attention was devoted to developing energy production, to the implementation of measures to promote more economic use of fuel and energy, to the production of energy-saving equipment and devices for the automatic regulation of heat and electrical energy consumption. It was noted that technology to save energy costs, on average, two or three times less than extracting the equivalent amounts of fuel and energy. It was agreed to work out a long-term programme of co-operation in the energy sector up to the year 2000.

*Plans for 1984* in all the countries of the region call for the consolidation of domestic energy production and for further falls of energy consumption relative to output. These objectives take into account the long-term energy programmes and coordinated energy policies of the CMEA countries. In *Bulgaria*, high priority is given to nuclear power. At the end of 1985 a new reactor with a 1000 MWh capacity is expected to be put into operation at the Kozloduy nuclear power station, which will be followed by a similar one two years later. Nuclear reactors of 1000 MWh capacity will also operate at the Beleme atomic power station from 1989. The share of nuclear power in total electricity generated in the country is to reach 26 per cent by 1985 and perhaps 40 per cent by 1990. Some increases in coal extraction are expected. These will be used to fire power stations designed to run on domestic coal. In *Czechoslovakia*, energy problems will remain the centre of attention in 1984. In general, no big increases are expected in energy production in the plan for 1984 though nuclear electricity output is to rise by 35 per cent. Energy costs per unit of NMP are to decrease by 2 per cent. The implementation of the state fuel and energy rationalization programme is a plan priority, and energy consumption is to be strictly controlled by public and governmental organs. In the *German Democratic Republic*, marketable production in the coal and energy industry is to increase by 2.8 per cent. Energy saving will continue to be given priority in industrial policy. Higher production targets are to be reached with no increase in primary energy consumption, and energy used per unit of production is to decrease by 4.2 per cent. In *Hungary*, total energy consumption is expected to increase by 1-2 per cent in 1984, within which electricity by 3.1-3.2 per cent. Nuclear energy is being given increased attention: in 1983, the first block of the Paks nuclear power station was put into operation. All four 440 MWh blocks will be in full operation in 1987 and will supply one quarter of electricity needs. The state programme for the rational use of energy will continue in force and the substitution of oil by alternative fuels will remain a high priority. In *Poland*, the plan for 1984 assumes that coal and electricity demand will be more or less satisfied while shortages of coke, gas and petrol will persist. Poland will begin constructing nuclear power stations, and the Zarnowiec nuclear power station, with four reactors of 440 MWh each, should begin production in 1989. In *Romania*, the energy and raw material provisions of the plan for 1984 envisage an expansion of domestic supplies in line with existing long-term programmes. Efforts to reduce energy consumption per unit of output are to continue. Oil production is expected to increase by 12 per cent, natural gas extraction by 2.8 per cent and electricity generation by 9.7 per cent. Energy production at these levels would meet 94 per cent of the country's energy needs. It is assumed that in two or three years' time self-sufficiency in energy will be reached. In the *Soviet Union*, a long-term energy programme up to the year 2000[220] has been elaborated to improve the structure of the country's energy balance, to accelerate the development of nuclear power engineering (including fast-breeder reactors) and to intensify the search for new energy sources. It also outlines measures to increase gas and oil production in Western Siberia, and to improve energy efficiency on the basis of the latest technology. The 1984 target for electricity generation is 1,465 billion kWh, an increase of 3.6 per cent over 1983. Major emphasis is laid on nuclear and hydro power, and electricity production from these sources is expected to rise by 12 per cent. Total primary energy production in 1984 is to increase by 3.4 per cent, within which natural gas production by almost 8 per cent. It has become much harder to meet industry's requirements for fuel and energy because their extraction is more costly, and capital-intensive, and energy savings will be widely promoted. In 1984, energy consumption per unit of NMP is expected to fall by 1.5 per cent.

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[216] *Ibid.*, p. 116.

[217] Including coal, oil, gas, bauxite and other ore extraction.

[218] See *Economic Survey of Europe in 1982*, p. 158.

[219] According to the plan fulfilment report, the sales plan was overfulfilled by the ministries as follows: power and electrification (by 1 per cent), petroleum industry (by 0.6 per cent), gas industry (by 2 per cent) and coal industry (by 0.1 per cent).

[220] *Pravda*, 9 April 1983, p. 1

### (iv) Patterns of industrial development

An important factor concerning the upturn of industrial growth recorded in 1983 in almost all the centrally planned economies of eastern Europe and the Soviet Union was the change registered in the structure of industrial output. The adjustment processes which allowed such changes to take place were implemented in response to the changed supply constraints and demand requirements of recent years.

An analysis of structural changes in industrial output in one specific year only cannot explain the more fundamental developments in the structure of supply and demand which underlie them. However, though individual countries have their own peculiarities, there are some common features of structural change in industrial output itself. In the *first place,*

TABLE 3.3.6

**Gross output by major branches**
(*Annual percentage change*)

| | Electricity and heating | Fuel | Ferrous metallurgy | Non-ferrous metallurgy | Engineering and metal working | Chemicals and rubber | Construction materials | Glass and china | Wood and wood processing | Pulp and paper | Textiles | Clothing | Leather and fur | Food processing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | | | | | | | | | |
| 1976–1980 | 7.5 | 5.6 | 6.9 | .. | 9.4 | 8.9 | 8.4 | 3.2 | 2.4 | 5.3 | 4.9 | 1.4 | 4.5 | 4.1 |
| 1980 | 10.8 | 5.6 | 2.0 | .. | 6.4 | 11.1 | 4.4 | 4.5 | 4.3 | 5.5 | 3.6 | 6.1 | 6.8 | −2.2 |
| 1981 | 6.7 | .. | 6.3 | .. | 7.2 | 4.2 | 3.8 | 2.2 | 4.2 | 7.5 | 5.7 | 5.2 | 7.3 | 8.4 |
| 1982 | 9.2 | .. | −1.4 | .. | 5.5 | 6.4 | 2.7 | 7.1 | 3.6 | 3.0 | 4.3 | 0.7 | 3.1 | 3.0 |
| 1983 | 5.7 | .. | 3.4 | .. | 11.1 | 7.4 | 2.8 | 2.6 | 0.5 | −0.3 | 2.9 | −3.7 | 2.2 | 1.2 |
| Plan 1981–1985 | 5.4 | | 5.4 | .. | 8.5 | 7.7 | .. | | | 4.6 | | | | 3.7 |
| *Czechoslovakia* | | | | | | | | | | | | | | |
| 1976–1980 | 4.8 | 2.6 | 2.8 | 3.1 | 6.7 | 5.8 | 4.4 | 5.2 | 5.3 | 4.3 | 3.5 | 3.4 | 3.3 | 2.7 |
| 1980 | 7.5 | −1.0 | 1.6 | 1.0 | 4.6 | 4.8 | 4.0 | 3.0 | 4.6 | 3.2 | 3.7 | 2.9 | 3.0 | 1.8 |
| 1981 | 1.1 | −0.5 | 1.0 | −0.3 | 4.2 | 1.7 | 1.8 | 2.1 | 1.2 | 2.0 | 2.7 | 2.4 | 1.9 | 1.3 |
| 1982 | 1.3 | −1.5 | −0.7 | −1.9 | 3.2 | 1.4 | −2.1 | 2.9 | 3.1 | 4.2 | 1.2 | 1.4 | 1.7 | −0.6 |
| 1983 | .. | .. | 1.0 | 1.6 | 4.8 | 2.7 | 0.4 | | 2.8 | | 1.0[a] | | | 2.4 |
| Plan1981–1985 | .. | .. | .. | .. | 5.1–5.9 | 1.4 | .. | .. | 4.1–4.6 | | 2.3–2.8 | | | .. |
| *German Democratic Republic* | | | | | | | | | | | | | | |
| 1976–1980 | 5.9 | 3.5 | 3.8 | 4.2 | 7.0 | 4.9 | 2.5 | 5.4 | 4.2 | 4.5 | 3.9 | 3.2 | 4.7 | 2.7 |
| 1980 | 3.0 | 5.0 | 3.1 | 3.1 | 7.8 | 3.3 | −0.6 | 4.5 | — | 4.6 | 3.3 | 4.3 | 4.3 | 2.1 |
| 1981 | 3.0 | 2.7 | 6.0 | 7.7 | 7.8 | 3.7 | −0.6 | 5.4 | 1.1 | 1.9 | 2.6 | 0.7 | 3.6 | 2.0 |
| 1982 | 3.0 | 7.0 | 2.0 | .. | 5.0 | 4.0 | −1.0 | 5.0 | 2.0 | 3.0 | 3.0 | 3.0 | 2.0 | — |
| 1983 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Plan 1981–1985 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Hungary*[b] | | | | | | | | | | | | | | |
| 1976–1980 | 6.0 | 0.6 | 1.6 | | 3.3 | 6.5 | 4.3 | 2.1 | 3.3 | 4.2 | 2.0 | 2.5 | 1.8 | 3.4 |
| 1980 | 3.3 | −5.2 | −4.1 | | −5.7 | −2.1 | 1.5 | — | −2.0 | 0.8 | 3.2 | 8.4 | −11.1 | 2.5 |
| 1981 | 3.4 | −2.8 | −1.6 | | 5.7 | 3.1 | 0.2 | .. | −1.4 | 4.8 | 2.2 | 3.7 | 5.3 | 3.0 |
| 1982 | 1.9 | 2.7 | 1.5 | | 4.4 | 1.9 | 1.0 | .. | −2.0 | 1.7 | −2.8 | −2.6 | 0.2 | 4.3 |
| 1983 | 2.4 | −3.2 | −1.5 | | 0.6 | 1.6 | 0.8 | .. | 1.4 | 4.5 | 1.4 | −5.2 | 3.4 | 2.2 |
| Plan 1981–1985 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| *Poland* | | | | | | | | | | | | | | |
| 1976–1980 | 5.4 | 2.5 | 3.2 | 3.6 | 7.0 | 4.3 | 1.2 | 9.9 | 4.8 | 1.7 | 3.0 | 3.7 | 4.2 | 2.4 |
| 1980 | 5.4 | −3.3 | 0.3 | −0.1 | 0.3 | 0.4 | −0.9 | 4.9 | 2.4 | 4.0 | −1.0 | 3.6 | 3.2 | −2.8 |
| 1981 | −6.1 | −12.5 | −17.6 | −16.2 | −12.0 | −11.4 | −17.6 | −5.2 | −10.5 | −12.5 | −12.7 | −5.2 | −8.9 | −8.6 |
| 1982 | 0.6 | 8.7 | −5.1 | 2.0 | −0.9 | 0.1 | 1.8 | 2.4 | −2.6 | 4.8 | −11.0 | −3.4 | — | −5.6 |
| 1983 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1.1 | .. | .. | 5.9 |
| Plan 1981–1985 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Romania* | | | | | | | | | | | | | | |
| 1976–1980 | 4.6 | 3.9 | 8.9 | 5.8 | 12.6 | 9.6 | 12.8 | 9.5 | 6.3 | 7.2 | 10.7 | 8.6 | 9.0 | 6.0 |
| 1980 | 1.6 | 0.7 | 0.6 | 6.5 | 9.7 | 6.8 | 4.6 | 9.8 | 5.4 | 6.0 | 9.2 | 8.6 | 8.5 | 1.5 |
| 1981 | 4.1 | −1.3 | 4.3 | 0.6 | 2.2 | 3.9 | −0.2 | 9.7 | 3.2 | 0.9 | 6.3 | 6.2 | 6.2 | −1.0 |
| 1982 | −1.1 | −2.6 | −0.2 | −3.3 | 3.5 | 1.4 | 2.0 | 4.1 | 2.9 | −1.5 | 2.5 | 2.0 | 1.5 | −2.2 |
| 1983 | .. | .. | .. | .. | 6 | 5.8 | .. | .. | .. | .. | .. | .. | .. | .. |
| Plan 1981–1985 | 6.0 | | 7.7 | | 8.8 | 10.2 | 5.8[c] | .. | .. | .. | 7.5 | .. | .. | 7.7 |
| *Soviet Union* | | | | | | | | | | | | | | |
| 1976–1980 | 5.1 | 3.0 | 1.9 | .. | 8.2 | 5.7 | 1.9 | 6.5 | 2.5 | 2.3 | 2.7 | 5.1 | 3.7 | 1.4 |
| 1980 | 5.8 | 1.7 | — | .. | 5.7 | 5.6 | 0.9 | 5.4 | 2.7 | 2.7 | 1.9 | 6.7 | 3.4 | — |
| 1981 | 2.2 | 1.9 | 0.5 | .. | 5.9 | 5.9 | 1.9 | 4.9 | 4.0 | 3.8 | 2.1 | 3.7 | 2.7 | 2.1 |
| 1982 | 3.3 | 1.3 | 1.4 | .. | 4.8 | 3.0 | 1.9 | 5.5 | 3.9 | 3.1 | — | — | 2.0 | 3.5 |
| 1983 | 3.0 | 2.0 | 4.0 | | 6.0 | 6.0 | 4.0 | | 3.0 | | | 0.9[a] | | 5.0 |
| Plan 1981–1985 | .. | .. | .. | .. | 7.0 | 5.7 | .. | .. | .. | .. | | 3.5 | | 4.2 |

*Sources:* As for table 3.3.1 and figures directly communicated to ECE secretariat

[a] Light industry

[b] Socialized industry only.

[c] Including wood processing, pulp and paper.

the expansion of the *energy and raw material sector* was constrained by restrictive investment policy, rising capital intensity, and the higher unit costs due to less favourable conditions of extraction. On the other hand, the east European countries had to expand their domestic energy production because of restricted possibilities for increasing imports of energy and raw materials. The process of harmonizing requirements and potentialities was accompanied by fluctuations in energy production in the countries of the region (table 3.3.6). *Second*, the limited availability of energy and raw material supplies squeezed production in the *energy and material-intensive branches* such as metallurgy, chemicals and construction materials. These branches are also capital-intensive and declining trends in investment growth also reinforced the trend (table 3.3.7). The build-up of supply constraints gave rise to new policy departures in order to achieve energy and material input savings. Programmes to cut consumption of basic *metals* thus contributed to declining growth rates in metallurgy too. Nevertheless, opposing factors also played a role. In Czechoslovakia, possibilities for increasing exports contributed to higher-than-planned rises in the output of metallurgy and chemicals in 1983. In Bulgaria and the Soviet Union, metallurgy recorded higher rates of growth in 1983 (probably to offset poor performance in preceding years – table 3.3.6). The *chemical industry* performed differently in the various countries concerned. Despite its dependence on oil feed stocks, it can diversify basic inputs by substituting other, more costly materials and technical processes. This is why some countries have increased output of the chemical industry at rates above average for industry as a whole (table 3.3.6). *Third*, *engineering* remained among the fastest growing industrial branches in 1983 (except in Hungary), reflecting its role as the most important source of equipment required for technical innovation. Growing demand for consumer durables also contributed to this trend. Very high rates of growth were recorded in the electrotechnical industry. In the future, a considerable role in the expansion of engineering is to be played by co-operation among CMEA countries, notably in the production and application of electronics, industrial robots and components for computer systems. *Fourth*, developments in the *light and the food industries* reflected policy orientations towards improving the supply of consumer goods on one hand, and limiting factors, such as uneven agricultural output performance and the restricted possibilities for importing material inputs, on the other. Results attained in 1983 show improvement in the consumer industries as against 1982 in Czechoslovakia, the German Democratic Republic (light industry only), in Hungary (light industry only), Poland and the Soviet Union (table 3.3.6).

The relationship between the growth rate of *producer goods* ("group A" industries) *and consumer goods* ("group B" industries) changed at the beginning of the 1980s in favour of consumer goods output. There appear to have been a number of interrelated factors at work, such as the shift in resources in favour of consumption, economies of inputs in the sphere of intermediate consumption and changing foreign trade patterns. In Hungary, the share of consumer goods production in

TABLE 3.3.7

**Structure of industrial production by major branches**
(*Percentage share*)

| | Total | Electricity and heating | Fuel | Metallurgy | Engineering | Chemicals | Construction materials | Light industry | Food processing |
|---|---|---|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | | | | |
| 1980 . . . . . . . . . | 100.0 | 2.7 | 3.7 | 4.0[a] | 28.4 | 9.0 | 4.2 | 17.6 | 20.2 |
| 1981 . . . . . . . . . | 100.0 | 4.1 | 9.9 | 4.5[a] | 22.7 | 8.3 | 4.9 | 14.5 | 22.5 |
| 1982 . . . . . . . . . | 100.0 | 4.5 | 8.5 | 3.9[a] | 21.2 | 8.3 | 4.4 | 14.7 | 26.1 |
| *Czechoslovakia* | | | | | | | | | |
| 1980 . . . . . . . . . | 100.0 | 3.3 | 7.0 | 10.8 | 30.4 | 8.5 | 3.6 | 17.5 | 13.9 |
| 1981 . . . . . . . . . | 100.0 | 3.2 | 6.9 | 10.6 | 31.2 | 8.5 | 3.6 | 17.2 | 13.8 |
| 1982 . . . . . . . . . | 100.0 | 3.3 | 6.7 | 10.4 | 31.8 | 8.5 | 3.5 | 17.3 | 13.6 |
| *German Democratic Republic* | | | | | | | | | |
| 1980 . . . . . . . . . | 100.0 | 7.0 | 8.4 | 9.3 | 30.5 | 11.5 | 2.0 | 15.1 | 13.7 |
| 1981 . . . . . . . . . | 100.0 | 6.9 | 8.3 | 9.5 | 31.2 | 11.3 | 1.9 | 14.9 | 13.3 |
| 1982 . . . . . . . . . | 100.0 | 6.9 | 8.9 | 9.4 | 31.8 | 11.3 | 1.8 | 14.8 | 13.0 |
| *Hungary* | | | | | | | | | |
| 1980 . . . . . . . . . | 100.0 | 5.8 | 7.6 | 9.6 | 30.0 | 13.2 | 2.0 | 14.2 | 14.7 |
| 1981 . . . . . . . . . | 100.0 | 5.8 | 7.3 | 9.1 | 30.6 | 13.4 | 1.9 | 14.3 | 14.6 |
| 1982 . . . . . . . . . | 100.0 | 5.7 | 7.1 | 8.9 | 31.3 | 13.4 | 1.9 | 13.6 | 15.1 |
| *Poland* | | | | | | | | | |
| 1980 . . . . . . . . . | 100.0 | 2.7 | 6.5 | 9.5 | 31.3 | 8.8 | 2.8 | 18.2 | 17.6 |
| 1981 . . . . . . . . . | 100.0 | 2.9 | 6.4 | 8.8 | 31.1 | 8.9 | 2.6 | 18.7 | 18.1 |
| 1982 . . . . . . . . . | 100.0 | 3.0 | 7.1 | 8.9 | 31.3 | 9.0 | 2.7 | 18.3 | 17.5 |
| *Romania* | | | | | | | | | |
| 1980 . . . . . . . . . | 100.0 | 1.8 | 3.9 | 10.8 | 35.5 | 9.0 | 3.5 | 20.4 | 12.9 |
| 1981 . . . . . . . . . | 100.0 | 2.6 | 8.4 | 11.7 | 30.6 | 10.1 | 3.6 | 19.6 | 11.2 |
| 1982 . . . . . . . . . | 100.0 | 2.9 | 7.7 | 12.3 | 29.9 | 10.0 | 3.5 | 19.5 | 12.0 |
| *Soviet Union* | | | | | | | | | |
| 1980 . . . . . . . . . | 100.0 | 3.1 | 6.0 | . . | 27.4 | 7.6 | 3.8 | 20.5 | 18.1 |
| 1981 . . . . . . . . . | 100.0 | 3.1 | 5.9 | . . | 27.9 | 7.8 | 3.7 | 20.4 | 18.0 |
| 1982 . . . . . . . . . | 100.0 | 3.5 | 8.5 | . . | 25.5 | 7.2 | 3.9 | 20.3 | 16.8 |

*Source*: *Statisticheski ezhegodnik stran-chlenov* SEV (CMEA Statistical Yearbook), 1983, pp. 68–71
*Note*: State and co-operative industries only
[a] Excluding non-ferrous metallurgy

total industrial output tended to increase both in 1981 and 1982 (table 3.3.8). In Czechoslovakia and the German Democratic Republic, rather stable relative shares of the two sub-branches were attained in 1980-1982, the growth rates of consumer goods production having approached those of the producer goods group. In Poland, Romania and the Soviet Union, some increase in the share of consumer goods production within total industrial output in 1981 was followed by a decrease in 1982. In Bulgaria, a substantial rise in the share of group B industrial output took place in 1982 after a fall in 1981. For 1983, data are not available for most countries; the exception is the Soviet Union, where the production of consumer goods increased by 4.3 per cent while that of producer goods rose by 3.9 per cent. The plan for 1984 provides for a continuation of this trend – consumer goods production is to grow by 4 per cent as against a 3.7 per cent increase for producer goods.

Besides the big structural changes in industrial output already discussed, structural shifts inside industrial branches have taken place which are impossible to measure given the lack of statistical detail. Their importance has probably been growing. Industrial policy in all the centrally planned economies continues to stress the urgent necessity of innovation, of raising the share of new and high quality products and broadening the assortment of goods produced.[221] In metallurgy, the share of high quality steel is to be increased and the sizes and specification ranges of rolled products is to be extended. In the chemical industry, the share of plastics, synthetic resins, chemical fibres, pharmaceuticals and cosmetics in total output is to be increased and in engineering the output of microprocessors, industrial robots, automation techniques and high quality machinery and equipment in general is to rise faster than the average. Finally, the consumer goods sector will be expected to improve the quality and extend the range of its products.

### (v) Specific features of industrial development by country

The relatively high rates of industrial growth targeted under the five-year plan in *Bulgaria* (an annual average of 5.1 per cent) were not met in the first three years of 1981-1985 period. Nevertheless, industrial growth attained 4.8 per cent in 1981, 4.6 per cent in 1982 and 4.6 per cent in 1983 – the most stable and also the highest rates in the region. The priority development envisaged in the 1983 plan for engineering and chemicals (planned increases of 9.1 per cent and 9.7 per cent respectively) was in the first case overfulfilled (growth reaching 11.1 per cent) and in the latter case (7.4 per cent actual growth) underfulfilled. The much lower planned production targets were also not met in metallurgy and light industry (2.2 per cent actual against a planned 3.6 per cent).

An important feature of the pattern of industrial growth in Bulgaria is the very fast development of the branches contributing most to technical progress (electronics, industrial robots and manipulators, automation techniques). A major role was played by national programmes to promote automation, to introduce electronics and to achieve more effective utilization of material resources. Industrial policy stresses the need to improve product quality at faster rates, and a national conference was held in Varna on this topic in May 1983.[222]

*The plan for 1984* is centred upon maintaining industrial growth. The 5 per cent objective retained corresponds to the average annual growth planned for 1981-1985 period. Priority development of engineering and electronics is to continue, and a 10.2 per cent increase in the output of these branches is envisaged. In metallurgy, the reconstruction of old and the construction of new metallurgical enterprises is to be undertaken. This is expected to contribute to an improvement in the structure and quality of ferrous metals output and to ease some shortages reported in 1983. The production of the chemical industry is to increase by 8.9 per cent. Light industry is planned to grow by 4.2 per cent and the food industry by 5.5 per cent.

Industrial policy in *Czechoslovakia* was oriented towards balanced growth, and very moderate growth targets (0.6 per cent) were envisaged in the plan for 1982. This policy proved to be realistic, and gross industrial output actually increased by 1.1 per cent. The plan for 1983 foresaw an acceleration of industrial growth to 2.4 per cent. A structural shift in favour of the engineering and wood-processing industries was accompanied by a fall in the share of the energy-intensive branches (metallurgy, chemicals and construction materials) in total output. In fact, gross industrial output in 1983 increased by 2.7 per cent and the planned output target was overfulfilled.

The adjustment of industrial performance to changed conditions and increased efficiency in the use of limited production resources contributed to improved industrial growth in 1983. Structural change in industrial output was very close to expectations. Engineering production grew, as planned (by 4.8 per cent) as did food-processing (2.4 per cent) and light industry. Higher than planned output was reached in metallurgy and chemicals (2.7 and 0.8 per cent respectively), partly because of better export possibilities. On the other hand wood-processing did not meet expectations, output rising by 2.8 per cent against the 4.7 per cent planned.

TABLE 3.3.8

**Producer (A) and consumer (B) goods parts of industrial output**
*(Percentage shares)*

| | 1980 | | 1981 | | 1982 | |
|---|---|---|---|---|---|---|
| | A | B | A | B | A | B |
| Bulgaria | 62.0 | 38.0 | 65.2 | 34.8 | 61.4 | 38.6 |
| Czechoslovakia | 68.2 | 31.8 | 68.1 | 31.9 | 68.2 | 31.8 |
| German Democratic Republic | 66.4 | 33.6 | 66.5 | 33.5 | 66.7 | 33.3 |
| Hungary | 64.5 | 35.5 | 63.7 | 36.3 | 63.2 | 36.8 |
| Poland | 63.7 | 36.3 | 62.5 | 37.5 | 63.4 | 36.6 |
| Romania | 74.3 | 25.7 | 73.1 | 26.9 | 76.3 | 23.7 |
| Soviet Union | 73.8 | 26.2 | 73.7 | 26.3 | 75.1 | 24.9 |

*Source: Statisticheski ezhegodnik stran-chlenov SEV* (CMEA Statistical Yearbook), 1983, p. 63

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[221] For instance W. Stoph, Chairman of the Council of Ministers of the German Democratic Republic, laid down objectives to "improve our production structure (by) introducing new and further developing existing products, the demand for which has hitherto been insufficiently covered or is growing at a rapid pace. Key points here are highly-processed chemical and metallurgical products, microelectronic components and robot construction and other products". *Neues Deutschland*, 9 December 1983.

[222] *Rabotnichesko delo*, no. 151, 31 May 1983.

*The plan for 1984* lays down a 2.9 per cent rise in gross industrial production – slightly higher than in 1983. Export promotion ranks among the priority objectives of the plan and industrial exports are expected to grow by 5 per cent. Balanced industrial growth and higher efficiency in the utilization of all production resources are again strongly stressed. Scientific and technical progress is expected to play the most important role in increasing economic efficiency. Short- and long-term measures to speed up scientific and technical progress were adopted.[223] The plan for 1984 incorporates "state target-oriented programmes" directed mainly towards achieving further savings of fuel, energy and raw material consumption, and the priority development of a number of selected branches. Engineering will occupy the key position in industrial development with a planned increase in output of 6.4 per cent. The chemical industry is to increase its gross output by 2.4 per cent – above growth rates in the preceding three years and also above the average output target of the five-year plan (1.4 per cent). The rise in light industry output is targeted at 2.1 per cent. A retrenchment in fuel, metallurgy, oil refining and construction materials production is envisaged.

In the *German Democratic Republic* the upturn in industrial growth recorded in 1983 (4.1 per cent against 3.2 per cent in 1982) was higher than expected by the plan (3.8 per cent). The average annual industrial growth rate of 4 per cent attained in the course of 1981-1983 is rather high judged by international standards. Even more important is the fact that industrial expansion was based on steadily declining consumption of fuels, energy and raw materials. The decrease in the consumption of energy and other material inputs per unit of output accelerated, reaching 5, 6 and 7 per cent in 1981, 1982 and 1983 respectively. An improved pattern of industrial growth was reported and high results were achieved in the recycling of secondary raw materials. High rates of growth were achieved in microelectronics, semi-conductor elements, electronic components and industrial robots.

The combination of a high-growth strategy simultaneously with demanding targets in economic efficiency – notably in the field of material inputs use – remains a specific feature of industrial development policy in the German Democratic Republic. *The plan for 1984* provides for a slowdown in the industrial growth rate to 3.6 per cent, against 4.1 per cent actually attained in 1982 for industrial marketable production. In fact, for the first time, gross industrial output growth is planned to grow at a rate below that of NMP (4.4 per cent). The explanation may be found in the substantially higher growth rates of net output envisaged compared with gross output (an 8 per cent increase in net output against 4.2 per cent in the case of marketable production by enterprises subordinated to the industrial ministries). Reductions of material inputs per unit of output have thus become a major factor of NMP growth. The targets in this field are demanding; a 7.5 per cent decline is assumed in the consumption of main energy and other material inputs per unit of output.

Among the basic objectives of industrial policy rank export promotion, product quality improvements and the introduction of new products. The acceleration of scientific and technical progress is seen as the basic factor in the planned "intensification" of industrial production. The increased allocation of resources for R&D (almost 5 per cent of produced NMP) will serve the same end.

Published figures on marketable output by the industrial ministries (table 3.3.9) indicate that high rates of growth are to be reached in electrotechnical engineering and electronics (8.8 per cent), machine tools and metal working machinery (6.5 per cent), glass and ceramics (5.9 per cent) and general and agricultural engineering and vehicles (5.2 per cent). A slowdown is planned for coal and energy, chemicals and heavy engineering.

Industrial production *in Hungary* in 1983 increased by 1 per cent, which corresponds to the lower limit of the planned output target (1.0–2.0 per cent). Industrial performance in 1983 should be judged as rather poor in comparison with the 2.8 and 2.5 per cent increases in 1981 and 1982 respectively, and also in comparison with the five-year plan targets (3.5–4.0 per cent annually). Several factors contributed to this development – mainly low import demand on foreign markets, a big drop in crop production and the slow adjustment of industrial output to changed conditions. The dynamic industrial branches were electricity generation (4.1 per cent), food-processing (2.2 per cent) and chemicals (1.6 per cent). The production of light industry rose by 1.0 per cent. On the other hand output of the mining and metallurgical industries declined by 3.2 and 1.5 per cent respectively.

Employment in the socialized industry fell by 2.3 per cent. Labour productivity thus grew faster than output – by more than 3 per cent. The consumption of energy and materials per unit of industrial output decreased in most branches. Industrial expansion was less constrained by material supply bottlenecks than in 1982.

*The plan for 1984* envisages rather moderate industrial output growth of 1.5–2.0 per cent. Taking into account performance in the preceding three years (2.1 per cent annually on average) it is unlikely that the five-year plan target of an annual 3.5–4.0 per cent average growth will be achieved. Industrial development will be export-oriented or linked with import substitution and energy and material input savings. Improving the range of exportable goods, and a faster adaptation to changing market conditions remains one of the main plan objectives. The implementation of energy and material conservation programmes is to continue. It is estimated that material inputs for industrial production can be reduced by 0.5–1.0 per cent.

Only sketchy data have been published concerning planned growth rates of the main industrial branches. Engineering is to be expanded at rates of 2-3 per cent. Owing to the poor harvest

TABLE 3.3.9

**Planned growth of marketable output by industrial ministries in the German Democratic Republic**

(*Annual percentage change*)

| | 1981 | 1982 | 1983 | 1984 |
|---|---|---|---|---|
| Industry total | 5.8 | 4.6 | 4.5 | 4.2 |
| Coal and energy | 3.0 | 3.7 | 3.7 | 2.8 |
| Ore mining, metallurgy and potash | 5.8 | 3.3 | 2.6 | 3.7 |
| Chemical industry | 6.3 | 6.0 | 3.3 | 2.9 |
| Electrotechnical engineering and electronics | 8.9 | 7.7 | 8.5 | 8.8 |
| Heavy engineering and complete installations | 5.9 | 5.7 | 5.2 | 2.7 |
| Machine tools and metal-working machinery | 9.1 | 8.7 | 8.4 | 6.5 |
| General and agricultural engineering and vehicles | 7.8 | 6.7 | 5.1 | 5.2 |
| Light industry | 4.0 | 3.7 | 3.1 | 3.1 |
| Glass and ceramics | 5.1 | 4.2 | 5.2 | 5.9 |
| Food processing and local industry | 6.2 | 4.6 | 3.7 | 3.0 |

*Source*: National plans

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[223] The 8th Session of the Central Committee of the Communist Party of Czechoslovakia dealt with the accelerated application to production of the results of science and technology. See *Rudé právo*, 17 June, 1983.

crops in 1983 production in the food industry will increase only at a low rate.

In *Poland*, following a steep decline in industrial output in 1981 (10.8 per cent) and some degree of stabilization in 1982 (a further fall of 2.1 per cent only), a strong recovery of industrial production took place in 1983 (a rise of 6.7 per cent in the industrial sales of socialized industry). The plan expectation that an upswing in industrial production would occur thus materialized and the attained rate of growth was even higher than envisaged (3.7-4 per cent). The extractive industries increased output by 2.3 per cent and manufacturing by 7.1 per cent. A marked increase in output was recorded in electricity, coal, steel, rolled products, cars, mineral fertilizers and chemical fibres (table 3.3.10).

Industrial labour productivity increased even more than industrial output (by about 8 per cent), thus much more than offsetting a 1 per cent decrease in industrial employment in socialized industry. This was the highest tempo in the region in 1983. For the first time in several years an improvement has been noted in the consumption of material inputs per unit of industrial output; they declined by approximately 1–1.5 per cent. Nevertheless, plan expectations in this respect (a reduction of 2.2 per cent) were not met.

The plan called for faster adjustment of industrial output to changes in demand and to the limitations imposed on the availability of production factors (notably material input supplies and labour). The adjustment did not fully materialize and progress in this field is judged insufficient. Some shortages persist – notably with regard to supplies of raw and some other material inputs and particularly those imported from market economies.

*The plan for 1984* stems from the national socio-economic plan for 1983–1985. The industrial output targets of this plan (a 2.7–3 per cent average annual growth) will in fact, be overfulfilled if the industrial growth rate expected in 1984 (4.5 per cent) is reached. No figures on output growth by major branches were released in the plan for 1984. Nevertheless, further adjustments in the structure of industrial output are required and a detailed programme is to be worked out. Substantial improvements in the production of consumer goods and exportable products are also among the priorities of the plan.

The plan also calls for significant savings in energy and material consumption per unit of industrial output, and the material intensity of industrial production is to be reduced by 2–2.5 per cent. The production of excessively energy and material-intensive products is to be further restricted. In this regard the plan for 1984 lays down a government savings programme, elaborated as a part of the national socio-economic plan for 1983–1985. It includes both short-term and long-term measures designed to bring about higher efficiency in the use of inputs.

TABLE 3.3.10

**Output of some major industrial products**

| | Electricity (*billions of kWh*) | Coal (*millions of tons*) | Crude oil (*millions of tons*) | Natural gas (*billions of m³*) | Steel (*millions of tons*) | Steel pipes (*millions of tons*) | Motor cars (*thousands*) | | | Tractors (*thousands*) | Refrigerators (*thousands*) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Passenger | Trucks | Buses | | |
| *Bulgaria* | | | | | | | | | | | |
| 1980 . . . | 34.8 | 30.2 | — | 0.2 | 2.6 | 0.2 | 15.4 | — | 2.1 | 6.8 | 96 |
| 1981 . . . | 37.0 | 29.2 | — | 0.1 | 2.5 | 0.3 | 15.0 | — | 2.1 | 6.6 | 126 |
| 1982 . . . | 40.5 | 32.2 | — | 0.1 | 2.6 | 0.3 | 15.0 | — | 2.2 | 6.2 | 133 |
| 1983 . . . | 42.6 | . . | — | . . | . . | . . | . . | — | . . | . . | . . |
| *Czechoslovakia* | | | | | | | | | | | |
| 1980 . . . | 72.7 | 123.1 | 0.1 | 0.6 | 15.2 | 1.5 | 184 | 45.7 | 3.3 | 33.4 | 353 |
| 1981 . . . | 73.5 | 122.8 | 0.1 | 0.7 | 15.3 | 1.5 | 181 | 45.9 | 2.6 | 32.1 | 380 |
| 1982 . . . | 74.7 | 124.6 | 0.1 | 0.7 | 15.0 | 1.5 | 174 | 47.3 | 3.4 | 33.5 | 383 |
| 1983 . . . | 76.3 | 127.4 | . . | . . | 15.0 | . . | 177 | . . | . . | 34.2 | 402 |
| *German Democratic Republic* | | | | | | | | | | | |
| 1980 . . . | 98.8 | 258.1 | — | — | 7.3 | 0.7 | 177 | 37.0 | 2.9 | — | 637 |
| 1981 . . . | 100.7 | 266.7 | — | — | 7.5 | 0.7 | 180 | 39.4 | 3.0 | — | 655 |
| 1982 . . . | 102.9 | 276.0 | — | — | 7.2 | 0.7 | 183 | 38.8 | 2.5 | — | 700 |
| 1983 . . . | 105.0 | 278.0 | — | — | 7.3 | . . | . . | . . | . . | — | 762 |
| *Hungary* | | | | | | | | | | | |
| 1980 . . . | 23.9 | 25.7 | 2.0 | 6.1 | 3.8 | 0.3 | — | 0.2 | 12.4 | 0.1 | 499 |
| 1981 . . . | 24.3 | 25.9 | 2.0 | 6.0 | 3.6 | 0.3 | — | — | 11.1 | 0.2 | 504 |
| 1982 . . . | 24.5 | 26.1 | 2.0 | 6.6 | 3.7 | 0.3 | — | 0.8 | 11.8 | 0.3 | 411 |
| 1983 . . . | 25.7 | 25.2 | 2 | 6.5 | 3.6 | . . | — | . . | 12.0 | . . | 425 |
| *Poland* | | | | | | | | | | | |
| 1980 . . . | 121.9 | 230.0 | 0.3 | 6.0 | 19.5 | 1.1 | 351 | 53.7 | 13.1 | 57.5 | 694 |
| 1981 . . . | 115.0 | 198.6 | 0.3 | 5.7 | 15.7 | 1.0 | 240 | 42.7 | 11.2 | 50.5 | 553 |
| 1982 . . . | 117.6 | 227.0 | 0.2 | 5.2 | 14.8 | 0.9 | 229 | 37.8 | 9.5 | 53.0 | 509 |
| 1983 . . . | 125.8 | 233.6 | . . | . . | 16.2 | . . | 270.2 | 42.6 | . . | 55.5 | 534 |
| *Romania* | | | | | | | | | | | |
| 1980 . . . | 67.5 | 35.2 | 11.5 | 33.3 | 13.2 | 1.5 | 88.2 | 31.7 | 4.1 | 70.9 | 376 |
| 1981 . . . | 70.1 | 36.9 | 11.6 | 35.1 | 13.0 | 1.4 | 91.9 | . . | . . | 8.1 | 400 |
| 1982 . . . | 68.9 | 30.7[a] | 11.7 | 35.5 | 13.0 | 1.4 | 104.0 | . . | . . | 61.8 | 431 |
| 1983 . . . | 70.2 | 36.7[a] | 11.6 | 32.6 | 12.6 | 1.4 | 76.9 | . . | . . | 82.7 | . . |
| *Soviet Union* | | [b] | | [b] | | | | | | | |
| 1980 . . . | 1 294 | 652.9 | 603.2 | 405.6 | 147.9 | 18.2 | 1 327 | 787 | 85.2 | 554.9 | 5 925 |
| 1981 . . . | 1 326 | 637.8 | 608.8 | 433.6 | 148.4 | 18.3 | 1 324 | 787 | 86.9 | 558.5 | 5 933 |
| 1982 . . . | 1 367 | 647.3 | 612.5 | 466.7 | 147.2 | 17.9 | 1 307 | . . | 85.7 | 555.2 | 5 800 |
| 1983 . . . | 1 416 | 645.3 | 616 | 499.4 | 153 | 18.7 | 1 300 | . . | . . | . . | 5 700 |

TABLE 3.3.10 (*continued*)

| | Television sets (*thousands*) | Mineral fertilisers (*thousands of tons nutrient content*) | Plastic and resins (*thousands of tons*) | Chemical fibres (*thousands of tons*) | Cement (*millions of tons*) | Pulp (*thousands of tons dry matter*) | Paper and cardboard (*thousands of tons*) | Fabrics (*millions of* $m^2$) | Meat (*thousands of tons*) | Sugar (*thousands of tons*) |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Bulgaria*** | | | | | | | | | | |
| 1980 . . . . | 91 | 653 | 255 | 96 | 5.4 | 190 | 395.1 | 458 | 462 | 341 |
| 1981 . . . . | 112 | 710 | 310 | 101 | 5.4 | 196 | 426.4 | 474 | 475 | 405 |
| 1982 . . . . | 123 | 698 | 337 | 105 | 5.6 | 187 | 435.0 | 487 | 491 | 399 |
| 1983 . . . . | . . | . . | . . | 101 | 5.6 | . . | . . | . . | 506 | . . |
| ***Czechoslovakia*** | | | | | | | | | | |
| 1980 . . . . | 389 | 1 233 | 894 | 165 | 10.5 | 584 | 1 186 | 908 | 1 140 | 779 |
| 1981 . . . . | 398 | 1 139 | 913 | 169 | 10.6 | 586 | 1 202 | 929 | 1 149 | 778 |
| 1982 . . . . | 391 | 1 165 | 956 | 180 | 10.3 | 679 | 1 228 | 939 | 1 051 | 894 |
| 1983 . . . . | 416 | . . | 1 006 | 186 | 10.5 | . . | . . | . . | . . | . . |
| ***German Democratic Republic*** | | | | | | | | | | |
| 1980 . . . . | 578 | 4 735 | 861 | 293 | 12.4 | 514 | 1 242 | 749 | 1 550 | 733 |
| 1981 . . . . | 619 | 4 787 | 998 | 303 | 12.2 | 506 | 1 258 | 755 | 1 601 | 818 |
| 1982 . . . . | 652 | 4 669 | 990 | 301 | 11.7 | 512 | 1 261 | 756 | 1 518 | 896 |
| 1983 . . . . | . . | . . | . . | . . | . . | . . | . . | . . | . . | . . |
| ***Hungary*** | | | | | | | | | | |
| 1980 . . . . | 417 | 1 045 | 328 | 29 | 4.7 | 29.8 | 440.4 | 450 | 779 | 468 |
| 1981 . . . . | 424 | 1 112 | 314 | 29 | 4.6 | 31.8 | 457.6 | 441 | 780 | 490 |
| 1982 . . . . | 351 | 1 071 | 326 | 28 | 4.4 | 26.2 | 462.3 | 422 | 815 | 459 |
| 1983 . . . . | 332 | 1 107 | 345 | 27 | 4.2 | 28.8 | 478.1 | . . | . . | 476 |
| ***Poland*** | | | | | | | | | | |
| 1980 . . . . | 900 | 2 238 | 576 | 256 | 18.4 | 526 | 1 277 | 1 499 | 2 460 | 1 067 |
| 1981 . . . . | 764 | 2 241 | 504 | 205 | 14.2 | 465 | 1 124 | 1 323 | 1 856 | 1 685 |
| 1982 . . . . | 577 | 2 284 | 466 | 201 | 16.0 | 556 | 1 181 | 1 150 | 1 853 | 1 777 |
| 1983 . . . . | 566.5 | 2 324 | . . | 232.1 | 16.2 | . . | . . | . . | 1 729 | 1 970 |
| ***Romania*** | | | | | | | | | | |
| 1980 . . . . | 541 | 2 451 | 579 | 152 | 14.6 | 588 | 847 | 1 085 | 1 071 | 509 |
| 1981 . . . . | 498 | 2 640 | 584 | 145 | 13.8 | . . | 855 | 1 076 | 1 052 | 609 |
| 1982 . . . . | 412 | 2 692 | 591 | 156 | 13.9 | . . | . . | . . | . . | 596 |
| 1983 . . . . | 390 | 2 900 | . . | 171 | . . | . . | . . | 1 109 | . . | . . |
| ***Soviet Union*** | | | | | | | | | | |
| 1980 . . . . | 7 528 | 24 767 | 3 028 | 1 176 | 125 | 5 192 | 8 733 | 10 418 | 8 514 | 10 127 |
| 1981 . . . . | 8 190 | 25 998 | 3 404 | 1 213 | 127 | 5 317 | 8 954 | 10 529 | 8 653 | 9 491 |
| 1982 . . . . | 8 345 | 26 738 | 3 319 | 1 235 | 124 | 5 424 | 8 978 | 10 507 | 8 652 | 12 070 |
| 1983 . . . . | 8 600 | 29 700 | . . | 1 400 | 128 | 5 700 | . . | 11 400 | . . | 12 400 |

*Sources: Statisticheski ezhegodnik stran-chlenov SEV* (CMEA Statistical Yearbook), 1983, pp. 72–110; plan-fulfilment reports.

[a] Only brown coal and lignite.

[b] Based on the methodology of CMEA.

The fulfilment of industrial output targets *in Romania* in the first two years of the five-year plan period was substantially behind expectations. In fact, the rates of growth of industrial production attained in 1981 and 1982 (2.6 per cent and 1.1 per cent respectively in terms of sales) were the lowest for 25 years. The 4.8 per cent rise in industrial output recorded for 1983 is substantially higher than the 1.9 annual average in 1981-1982 but still lower than the 6.6 per cent output target for the year. Nevertheless, the improvement in industrial growth which did take place was due to the overcoming of a number of growth-constraining factors. New capacities in engineering and chemicals were put into operation and some increases were reported in the efficiency of use of production inputs. Total costs per unit of output were 5.2 per cent lower in 1983 than in 1982. High rates of growth were recorded in engineering (6 per cent) and in the chemical industry (5.8 per cent). Labour productivity in socialized industry (calculated on the basis of sales) increased by 2.7 per cent. It thus accounted for about 70 per cent of industrial output growth.

*The plan for 1984* envisages a further acceleration of industrial growth. Industrial sales are expected to increase by 6.7 per cent, on the basis of increased efficiency in resource use. To this end, a programme to promote higher labour productivity and better organization of work was adopted. Its basic assumption is a doubling of labour productivity levels in socialized industry in 1990 compared with 1980. The programme specifies tasks for raising labour productivity in the main branches, and also ways to achieve it. Scientific and technical progress is expected to contribute 52-55 per cent of labour productivity growth. In 1984, 2,950 major R&D projects are to contribute to increased efficiency and improved product quality. Higher than average growth rates are expected in engineering and chemicals. A steel production target of 14.8 million tons is laid down – a 17.5 per cent increase over production levels in 1983. A law was also passed calling for bigger supplies of consumer goods including quality and assortment improvements.

Gross industrial output in the *Soviet Union* rose by 4 per cent in 1983 and thus substantially exceeded both industrial growth performance in the preceding two years (average annual growth of 3.2 per cent) and the identical (3.2 per cent) target for 1983. The Byelorussian SSR recorded a 4.9 per cent increase in gross industrial output and the Ukrainian SSR 4.3 per cent. The upturn in industrial growth was supported by rather high expansion of import volumes, by improvements in the structure of industrial growth – high rates of expansion in branches where bottlenecks had arisen in previous periods of rapid industrial growth – and by upturns in agricultural performance in 1982 and 1983.

Very high, above-plan growth rates were recorded in engineering and chemicals (in both cases 6 per cent). In the latter branch the increase attained is even above the 5.7 average annual rate of growth in 1976-1980. New chemical capacities were put into operation and output of some chemical products such as mineral fertilizers, synthetic resins and plastics and chemical fibres substantially increased (table 3.3.10). Metallurgy recorded a 4 per cent rise against only an average 0.6 per cent annual growth in the preceding three years. Supplies of ferrous and non-ferrous products markedly improved.[224] Light industry increased its output by only 0.9 per cent and did not reach the 2.7 per cent planned output target. The 5 per cent rise in output of the food-processing industry was very high indeed by historical standards. This performance should be judged against the background of substantial rises in agricultural output in 1982 and 1983 (5.5 and 5 per cent respectively).

The 3.5 per cent increase in industrial labour productivity is high compared with average annual growth of 2.2 per cent in 1981-1982 and a 2.8 annual rise in 1976-1980. About 88 per cent of industrial growth was attributed to labour productivity increases.

*The plan for 1984* envisages a 3.8 per cent rise in gross industrial production – 0.2 of a percentage point lower than in 1983. Industrial policy is to be based on the general strategy to improve production efficiency. In this respect the plan emphasizes a further acceleration of science and technology applications, higher capital productivity, an acceleration of labour productivity growth and reductions in the unit costs of production. Special emphasis is laid on eliminating the bottlenecks and shortages which hamper efficiency growth.

Industrial labour productivity is to rise by 3.4 per cent. The share of labour productivity in the growth of industrial output is expected to reach 90 per cent. In 1984, the Soviet Union will spend 26.6 billion roubles on R&D – 3.7 per cent more than in the previous year and roughly 5 per cent of expected NMP in that year.

Higher growth rates are envisaged for engineering (5.8 per cent) and the structure of engineering products is to be substantially adjusted to conform with the requirements of the food and energy programmes. Automation techniques, industrial robots and high quality products in general will receive priority. In chemicals, the production of plastics and resins is to grow by 11.8 per cent, chemical fibres by 5.8 per cent and mineral fertilizers by 3.3 per cent. Ferrous metallurgy output is targeted at only 1.3 per cent and stress is laid on raising the quality level and broadening the size and specification ranges of rolled products. A rise of 3.7 per cent over 1983 is planned for light industry. Production of cultural and household goods will increase by 4.3 per cent. Light industry adjusted slowly to increase the share of high quality consumer goods in total output[225] and a comprehensive programme for the production of consumer goods and services during the period 1986–2000 was elaborated. A new set of measures to promote economic incentives and to fix the responsibility of enterprises for improving the supply of consumer goods is to be adopted.

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[224] However, the ferrous metallurgy branch did not meet requirements in 1981 and 1982 and some shortages of metal of the required size and specification persisted into 1983. On this basis a programme of reconstruction and technical re-tooling up to the year 2000 was elaborated. See I. Pashko: "On the re-tooling of enterprises in ferrous metallurgy", *Planovoe Khozyaistvo*, No. 9, 1983.

[225] This was pointed out in the report of Yu. V. Andropov, read at the Session of the Central Committee of the Communist Party of the Soviet Union, *Pravda*, 27 December 1983.

## 3.4 INVESTMENT

In this section, the development of investment in the centrally planned economies of eastern Europe and the Soviet Union in 1983 is discussed, together with prospects for 1984 (sub-section (i)). In sub-section (ii), investment policies are assessed in general for the area, especially with regard to changes in the structure of investment allocations within the economy as a whole, between sectors of the material sphere and industrial branches, and also in the context of measures taken to improve the efficiency of investment activity. In sub-section (iii), investment activities in the individual countries of the region are described.

### (i) Investment growth

The growth of gross fixed capital formation in most countries of eastern Europe and the Soviet Union accelerated in 1983, thus continuing the return to a somewhat higher rate of growth which began already in 1982 (table 3.4.1 and chart 3.4.1). Investment growth planned for 1983 was apparently zero in two countries (Czechoslovakia and the German Democratic Republic), and negative in Hungary (where a 10 per cent fall was planned), while in the other countries of eastern Europe growth targets varied between 1–2 per cent. On this basis, the year 1983 was to witness, in eastern Europe as a whole, a planned decline estimated at 2 per cent. This would, however, have been more than offset by a roughly 3 per cent projected increase in the Soviet Union. The outcome for 1983 was, in fact, higher than the nearly 2 per cent objective for the region as a whole (as estimated on the basis of the seven countries aggregated plan targets); investment expanded by over 4 per cent.

The turnround in actual growth performance in 1983 was particularly marked for eastern Europe, where a 4.5 per cent contraction of investment in 1982 was followed by a nearly 2 per cent rise in 1983. The improvement affected all east European countries except Hungary, where investment declined (by 5 per cent). In all the other east European countries, either the decline was smaller than planned or low growth targets were exceeded. In the Soviet Union, investment outlays in 1983 rose by 5 per cent – well above plan and the highest of the seven countries. It was also the highest Soviet growth rate of any year in the current five-year plan period 1981–1985, and indeed the best Soviet performance since the year 1978.

Improved investment performance took place against a background of recovery in NMP growth rates which in fact characterized the economic performance of all countries of the region in 1983. Nevertheless, during 1981–1983, output growth has fallen markedly behind the directives of the five-year plan in most countries, especially in Romania. The two exceptions are Bulgaria and the Soviet Union. The pattern is roughly similar with regard to capital spending, and most countries have, during 1981-1983, invested at lower levels than foreseen in their original medium-term objectives. Again, the exceptions are Bulgaria and the Soviet Union, which would have to achieve significant contractions in investment in 1984 and 1985 if outcomes were to remain within the limits of the five-year plan.

The countries of the region can be divided into three groups for the purpose of assessing current investment performance. In the first are those countries where policies anticipated an absolute decline in investment during 1981–1985 relative to the previous plan period (Czechoslovakia and the German Democratic Republic). In the second are included countries where five-year investment plans were set at high and ultimately unsustainable rates (Hungary and Romania). The third group covers those countries where some further, albeit modest, increase in investment over the 1981-1985 period was expected (Bulgaria and the Soviet Union). Following this classification, it appears that in Czechoslovakia and the German Democratic Republic, where annual investment targets were subsequently lowered to levels even below the planned declines for 1981-1985, the upturn in NMP growth which took place in 1983 permitted some scaling-up of investment beyond the levels implied by the restrictive annual plans for that year. However, assuming no volume growth in 1983, Czechoslovak investments in 1983 were still 7 per cent below their previous high point in 1980. In the German Democratic Republic, they were 4 per cent below the record 1981 level.

In the second group of countries, NMP growth in 1983 was less buoyant than planned in both Hungary and Romania – despite the less than 1 per cent growth rate forecast by the former. Even so, the further investment cuts planned by Hungary were not fully achieved. In contrast, a recovery in investment foreseen in Romania, after two years in which investment contracted, did materialize but not as strongly as planned. In both these countries, investment levels (as well as the NMP targets in the case of Romania) are now considerably below the five-year plan expectations, and their attainment would involve impractically large rises in investment in 1984 and 1985. Hungarian investment in 1983 was 20 per cent beneath its previous high point in 1979. In Romania, investment was 7 per cent below its 1980 record level.

In the third group of countries – Bulgaria and the Soviet Union – annual investment targets were achieved or overachieved. This outcome reflects the relatively easier resource availability in both countries due to the fact that overall (NMP) growth has consistently been high and stable during the 1980s. The case of Poland is, of course, exceptional. Investment expenditures in 1982 were only some 58 per cent of their previous highest level in the year 1978. Investment continued to fall even in 1982, when the first planned effort was made to arrest the decline. However, this was not achieved until the fall in NMP was halted one year later, in 1983. Up to now, the investment sector has borne more than its share of the contraction in overall economic activity (NMP declined over the 1978–1983 period by 20 per cent).

*Plans for 1984* appear likely to result in some deceleration of investment growth relative to 1983. This reflects, in particular, a further planned decline in the level of investment in Hungary (by 10 per cent in the socialized sector and by about 8–9 per cent in total) and also in Poland (by 2.8 per cent). In both countries this would tend to compensate for the somewhat higher-than-expected outturns in 1983. No further investment growth, so far as can be estimated, is planned in Czechoslovakia or the German Democratic Republic, but an increase of about 4 per

TABLE 3.4.1

**Gross fixed capital formation, investment ratios and incremental capital-output ratios**

| Country and period | Gross fixed capital formation: Billions of national currency units | Gross fixed capital formation: Annual percentage change | Ratio of gross fixed capital formation to net material product | Gross incremental capital-output ratio[a] |
|---|---|---|---|---|
| *Bulgaria*[a] (based on constant 1982 prices) | | | | |
| 1976–1980 | 6.573 | 4.1 | 35.4 | 5.7 |
| 1980 | 7.074 | 7.5 | 33.9 | 5.9 |
| 1981 | 7.817 | 10.5 | 35.7 | 7.1 |
| 1982 | 8.098 | 3.6 | 35.4 | 8.4 |
| Plan 1983[c] | 7.540 | –6.9* | 31.8 | 8.4 |
| 1983 | 8.100* | —* | 34.4* | 11.5* |
| Plan 1984[c] | 8.150 | 8.1 | 33.4 | 8.8 |
| Plan 1981–1985 | 7.273* | 0.9* | 31.2 | 8.4 |
| *Czechoslovakia* (based on constant 1977 prices) | | | | |
| 1976–1980 | 143.00 | 4.1 | 33.7 | 8.6 |
| 1980 | 150.20 | 1.4 | 33.1 | 11.3 |
| 1981 | 143.30 | –4.6 | 31.6 | –30.0 |
| 1982 | 140.00 | –2.3 | 31.0 | –15.0 |
| Plan1983 | 137.60* | –1.7* | 30.0* | 18.7* |
| 1983 | 140.00* | —* | 30.3* | 13.8* |
| Plan1984 | 140.00* | —* | 29.5* | 10.6* |
| Plan1981–1985 | 142.5* | –1.7* | 29.4* | 12.9* |
| *German Democratic Republic* (based on constant 1980 prices) | | | | |
| 1976—1980 | 52.8 | 4.7 | 30.7 | 7.5 |
| 1980 | 54.5 | 0.3 | 29.1 | 6.6 |
| 1981 | 56.0 | 2.8 | 28.6 | 5.9 |
| 1982 | 52.4 | –6.4 | 26.1 | 10.3 |
| Plan 1983[d] | 51.7* | –1.3* | 24.7* | 5.9* |
| 1983 | 54.0* | 3.0* | 25.7* | 5.8* |
| Plan 1984[d] | 53.9* | —* | 24.6* | 5.6* |
| Plan 1981–1985 | 55.7* | 0.7* | 25.8* | 5.2* |
| *Hungary*[e] (based on constant 1981 prices) | | | | |
| 1976–1980 | 195.3 | 4.4 | 37.4 | 9.0 |
| 1980 | 195.1 | –6.7 | 36.0 | –42.6 |
| 1981 | 182.8 | –6.3 | 32.9 | 13.2 |
| 1982 | 177.1 | –3.1 | 31.2 | 13.6 |
| Plan 1983 | 159.4 | –10.0 | 27.8 | 37.1 |
| 1983 | 168.2* | –5.0* | 29.5* | 117.7* |
| Plan 1984 | 151.4* | –10.0 | 26.1 | 14.9 |
| Plan 1981–1985 | 198.0* | 0.5* | 33.5* | 11.5* |
| *Poland*[e] (based on constant 1982 prices) | | | | |
| 1976–1980 | 1783.9 | –0.4 | 31.1 | 9.1 |
| 1980 | 1550.9 | –12.3 | 28.2 | –4.7 |
| 1981 | 1204.3 | –22.3 | 24.8 | –2.1 |
| 1982 | 1058.2 | –12.1 | 23.1 | –4.2 |
| Plan 1983 | 1075.1 | 1.6 | 23.0 | 10.2 |
| 1983 | 1109.0 | 4.8 | 23.2 | 5.2 |
| Plan 1984 | 1077.9 | –2.8 | 22.0 | 8.4 |
| Plan 1981–1985 | . . | . . | . . | . . |
| *Romania* (based on constant 1980 prices) | | | | |
| 1976–1980 | 185.0 | 9.8 | 40.5 | 4.8 |
| 1980 | 210.5 | 3.0 | 41.5 | 13.9 |
| 1981 | 195.5 | –7.1 | 37.7 | 17.1 |
| 1982 | 190.6 | –2.5 | 35.8 | 13.8 |
| Plan 1983 | 192.0 | 0.7 | 34.4 | 6.9 |
| 1983 | 196.2 | 2.9 | 35.7 | 10.5 |
| Plan 1984 | 204.0 | 4 | 34.6 | 4.7 |
| Plan 1981–1985 | 239.5 | 4.4 | 38.4 | 5.4 |

cent is expected in Romania. Investment growth in eastern Europe as a whole is estimated at 1.4 per cent – compared with the 2 per cent actually achieved in 1983. In the Soviet Union, a 3.9 per cent target was announced for 1984. However, this target was set in relation to a level of investment in 1983 which at the time was assumed to be in line with the plan target. For this reason, the rate of growth mentioned may overstate the authorities' intention (see sub-section (iii) below).

The decline in the ratio of gross fixed capital formation to net material product (the *investment ratio*) since the mid-1970s was discussed in the *Economic Survey of Europe in 1982*,[226] which concluded that the sharp contraction in the ratio in the years up to and including 1982 reflected a readjustment in the wake of the extremely high levels associated with the investment boom of the mid-1970s, rather than a decline to excessively low levels relative to those in the late 1960s or early 1970s. In fact, since NMP growth in most countries of the region was higher than investment growth in 1983, some further decrease in investment ratios took place in most of them in that year (the exceptions were Poland and the Soviet Union).

However, only in Hungary did the movement of the investment ratio exceed 1 percentage point – a decline of 1.7

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[226] *Economic Survey of Europe in 1982*, pp. 173–174.

TABLE 3.4.1 (*continued*)

**Gross fixed capital formation, investment ratios and incremental capital-output ratios**

| Country and period | Gross fixed capital formation: Billions of national currency units | Gross fixed capital formation: Annual percentage change | Ratio of gross fixed capital formation to net material product | Gross incremental capital-output ratio[a] |
|---|---|---|---|---|
| *Soviet Union* (based on constant 1976 prices)[f] | | | | |
| 1976–1980 | 126.9 | 3.9 | 30.3 | 6.4 |
| 1980 | 133.7 | 2.4 | 29.7 | 7.6 |
| 1981 | 138.8 | 3.8 | 29.9 | 9.1 |
| 1982 | 143.7 | 3.5 | 29.7 | 7.4 |
| Plan 1983 | 148.3* | 3.2 | 29.7* | 9.0* |
| 1983 | 150.9* | 5 | 30.0* | 7.5* |
| Plan 1984 | 156.8* | 3.9* | 30.3* | 9.8* |
| Plan 1981–1985 | 140.0* | 1.5* | 28.4* | 9.2 |

*Sources*: National statistics, CMEA statistical yearbooks; plans and plan fulfilment reports.

*Note*: Where ranges were given for annual or five-year plan targets, investment figures shown above (and NMP growth rates used to calculate ICORs) are mid-points of the range. Geometric averages were used to compute average levels and percentage changes over five-year periods. The latter are based on the final year of the preceding five-year period. Due to this different method of calculation, five-year averages shown differ from those in table 3.1.4. Five-year plan objectives are based on ECE secretariat estimates of the year-by-year evolution of investment and NMP objectives, where these were not shown in the plans, on the assumption of constant annual percentage growth rates.

[a] The ICOR (incremental capital-output ratio) is defined as the investment ratio divided by the percentage change in NMP. A minus sign thus indicates NMP contraction

[b] Series for 1976-1982 are calculated from index numbers rebased on current 1982 prices. Average investment prices rose by some 10.9 per cent in 1980 - the first such increase for many years - but declined slightly in 1981 and 1982 (by 1.3 and 0.3 per cent respectively). Figures shown here for 1983 and plan 1984 are based on data at current prices, and the possibility of further price changes should be borne in mind.

[c] Annual plan data are in current prices.

[d] Based on figures of 47 billion marks for plan 1982 and 49 billion marks for plan 1983, adjusted upwards by 10 per cent to take account of investments not included in the plan.

[e] Socialized sector only Plan figures for 1981–1985 are based on published figures in current prices deflated by an estimated 4 per cent annual price rise.

[f] All planned relationships based on targets for NMP used.

percentage points. In the other countries of eastern Europe, the decline ranged between −0.1 of a percentage point in Romania to −0.6 of a percentage in Bulgaria and Czechoslovakia, and rises of 0.1 and 0.3 percentage points were recorded in Poland and the Soviet Union. These are the smallest changes in recent years, and might, at first sight, appear to represent a definite stabilization of investment relative to total resources. This would confirm the impression of a rather close relationship between output growth performance and investments. However, this statement should be qualified, since the actual declines in the investment ratios in 1983 were somewhat smaller than those implied by the plan provisions. Hence, bearing in mind that NMP growth was also higher than planned, it appears that a substantial part of above-plan buoyancy in output was used for investment purposes. The plans for investment and NMP in 1984 show a pattern of continued decline in the investment ratio very similar in most countries to those apparently envisaged for 1983. In the light of the foregoing, it is possible that any above-plan NMP growth will be accompanied by a more than equivalent rise in investment expenditures in 1984 also.

These rather small changes in the investment ratio, together with improved growth performance, have shown immediate and favourable results with regard to the *incremental capital-output ratio* (ICOR). This ratio, which has worsened steadily in virtually every successive year in most countries, improved quite sharply in four of them (Czechoslovakia, the German Democratic Republic, Poland and Romania) in 1983. The increase in the Soviet Union was only marginal, but the ICOR reached record levels due to poor NMP growth performance in Hungary, and also worsened in Bulgaria where NMP growth performance was somewhat lower than in the previous year. In several countries, the ICOR has now fallen to levels approaching those implicit in the five year plans; in Poland, it fell to its lowest level of the 1980s, despite the rise in investment expenditures. While too much significance should not be placed on the increment of the ICOR in a single year, the high level and rising trend of the indicator which persisted throughout the region for so long was apparently reversed in 1983 more abruptly and by amounts greater than in any year since the mid-1970s. A further improvement is, moreover, implied by the plan targets for output and investment in most countries of the region in 1984.

### (ii) Investment policies

In this sub-section, investment policies are first presented in terms of the allocation of resources between the material and the non-material spheres, and also between sectors of the material sphere and industrial branches. Following this, developments in raising the efficiency of the investment process are discussed.

#### (a) *Investment structure*

Some very abrupt changes have been forced on the structure of investment since the mid-1970s (table 3.4.2). Most countries of the region – Czechoslovakia and the German Democratic Republic are the exceptions – cut back the share of total investments allocated to the *material sphere* of the economy in 1982 and in four countries it fell below the average level for 1976–1980 initial year. However, the reduction has been fairly small except in Poland. The sectoral pattern of investment in some, but not all, of the east European countries changed quite substantially within the material sphere during the current plan period as compared with the average for 1976–1980, but scarcely at all in the Soviet Union. The main development was the big shift towards industry in Bulgaria, the German Democratic Republic and – though to a much smaller extent – in Czechoslovakia and Romania. In Hungary, Poland and Romania, in contrast, there was a quite substantial shift away from industry (and in Poland, also from transport and communications) and into agriculture. In the first two of these countries investment growth was the most sluggish of the region. In most cases the construction sector also lost ground,

CHART 3.4.1

CHANGES IN LEVEL OF NMP, GROSS FIXED CAPITAL FORMATION, AND INVESTMENT RATIO

(Indices, 1973–1977=100)

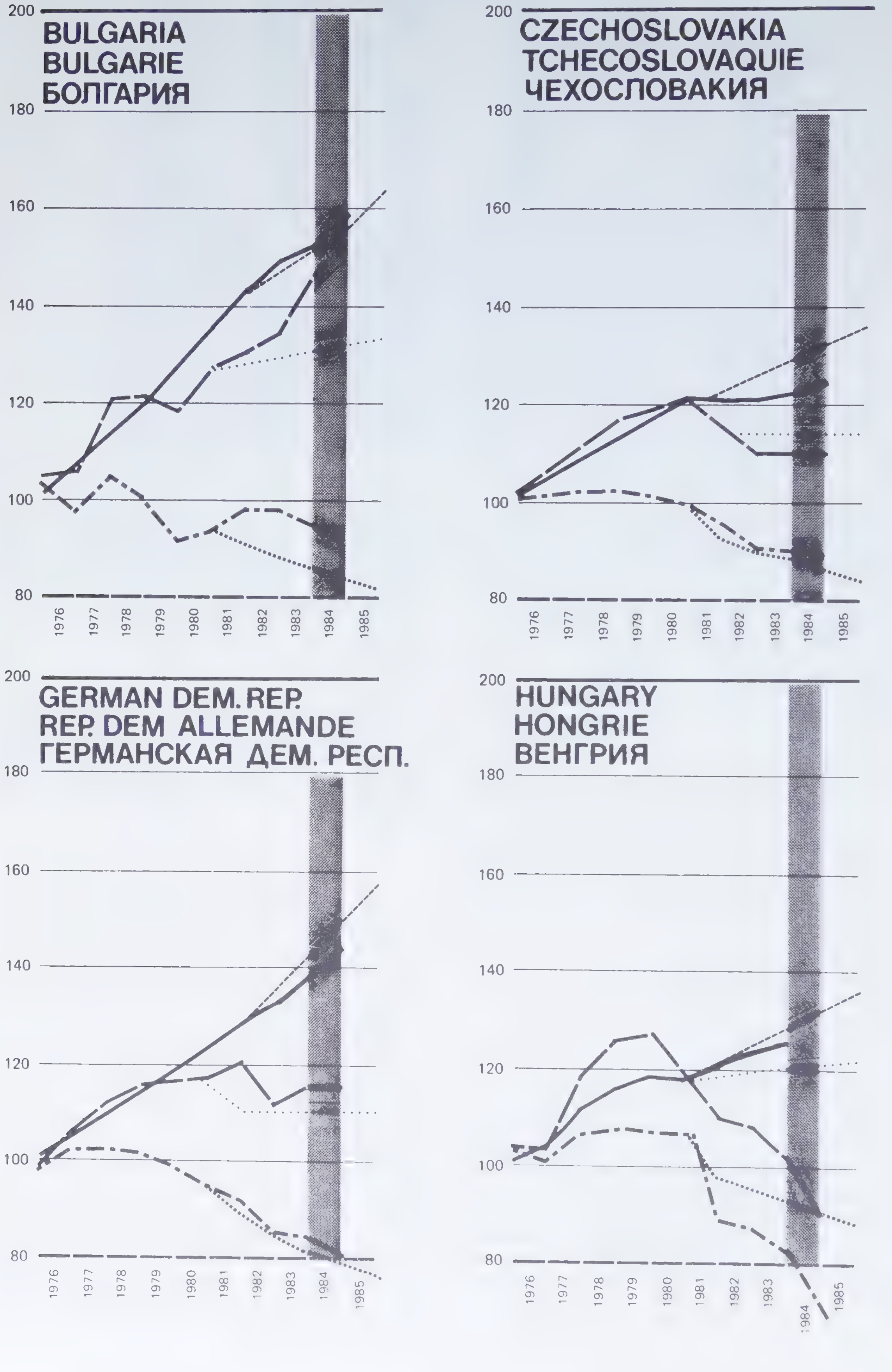
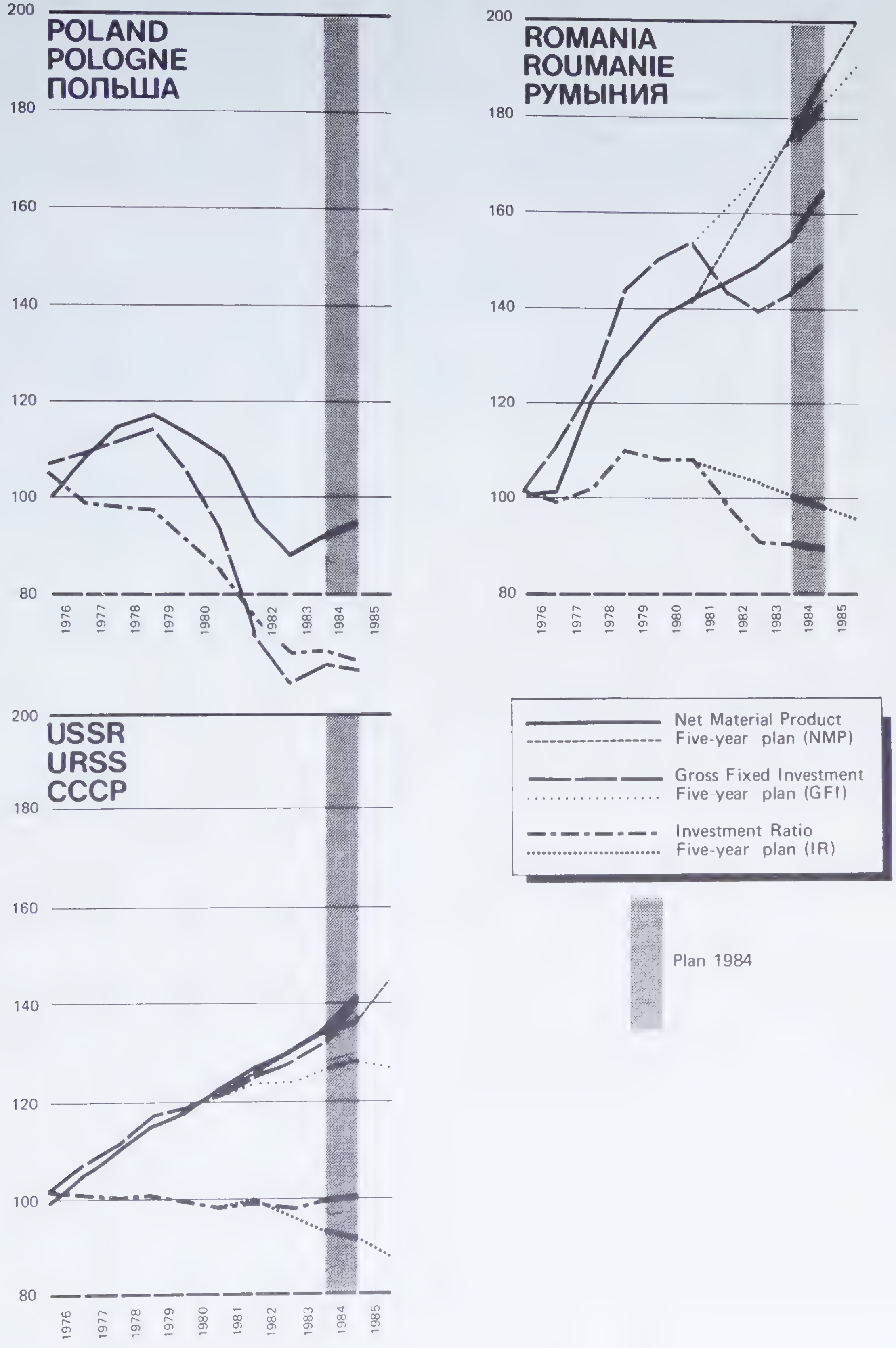


CHART 3.4.1 (*continued*)

CHANGES IN LEVEL OF NMP, GROSS FIXED CAPITAL FORMATION, AND INVESTMENT RATIO

(Indices, 1973–1977=100)



though not in Czechoslovakia. The general shift towards industry in eastern Europe notably reflected the governments' concern to provide funds to those activities which would actively facilitate the process of structural change – namely the engineering branch and also, in a somewhat shorter perspective, which would bring about a more rapid rise in the output of the energy and fuel sectors to compensate for more costly and sometimes declining imports of fuel.

Within *industry*, the share of energy and fuels taken together within total industrial investment had risen very substantially in most countries by 1982 compared with the 1976–1980 average (table 3.4.2). The movement was even more marked since 1975: from 23 to 31 per cent in Czechoslovakia; from 25 to 38 per cent – including non-fuel mining activities – in Hungary; from 19 to 39 per cent in Poland, from 28 to 37 per cent in Romania and from 28 to 35 per cent in the Soviet Union. Only in Bulgaria and the German Democratic Republic, where the corresponding shares rose only from 19 to 22 and fell from 24 to 23 per cent, respectively, was the fuel and energy crisis of the second half of the 1970s not reflected in a massive diversion of investment resources to the fuel and energy branches.[227] These shifts to the capital-intensive branches of industry are undoubtedly a major reason for the rise in ICORs since the 1970s, to which reference was made in the previous sub-section. At the same time, allocations to the engineering branch, upon which the whole economy depends

TABLE 3.4.2

**Structural shifts in investment allocations (A) between the material and non-material spheres (B) within the material sphere and (C) within industry**
(*Percentage points*)

| | Bulgaria | | | Czechoslovakia | | | German Democratic Republic | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1980/ 1976–1980 | 1981/ 1976–1980 | 1982/ 1976–1980 | 1980/ 1976–1980 | 1981/ 1976–1980 | 1982/ 1976–1980 | 1980/ 1976–1980 | 1981/ 1976–1980 | 1982/ 1976–1980 |
| A. *Between the material and non-material spheres* | | | | | | | | | |
| Material sphere | −0.8 | 0.4 | −0.2 | 1.0 | 1.8 | 1.9 | 0.1 | −0.2 | 0.4 |
| B. *Within the material sphere* | | | | | | | | | |
| Industry | 2.3 | 1.4 | 5.6 | 1.5 | 2.8 | 1.5 | 3.5 | 4.0 | 6.8 |
| Construction | −0.4 | −0.1 | - | 2.3 | 1.5 | 2.0 | −0.8 | −1.2 | −1.7 |
| Agriculture | −0.7 | −0.9 | −4.5 | −1.3 | — | 1.1 | −1.0 | −0.9 | −1.3 |
| Transport and communications | −0.9 | 0.3 | −1.1 | −1.6 | −3.4 | −3.5 | −0.5 | −0.3 | −1.7 |
| Trade[a] | −0.3 | −0.6 | - | −0.8 | −0.7 | −0.9 | −0.8 | −1.3 | −1.7 |
| Other | — | −0.1 | — | — | −0.1 | −0.2 | −0.4 | −0.4 | −0.4 |
| C. *Within industry* | | | | | | | | | |
| Energy | 0.1 | −0.1 | −2.3 | 0.3 | 0.2 | 1.7 | −0.1 | −0.5 | — |
| Fuel | 0.8 | 0.1* | 1.4* | 1.5 | 2.2 | 3.0 | | | |
| Metallurgy | 1.6 | 2.4 | 1.7 | −1.1 | −2.1 | −2.6 | 1.8 | 1.2 | 3.0 |
| Engineering | 3.4 | 6.0 | 8.6 | 0.3 | 1.5 | −1.9 | 2.2 | 5.2 | 3.3 |
| Chemicals | −3.9 | −2.2 | −3.3 | −1.8 | −1.1 | −0.9 | −0.3 | −2.1 | −1.2 |
| Construction materials | −0.1 | −3.3 | −3.8 | −0.4 | −1.2 | −1.6 | 0.1 | — | −1.3 |
| Wood, paper | −0.2 | −0.3 | −0.2 | 2.3 | 1.7 | 2.4 | .. | .. | .. |
| Textiles | −1.2 | −0.3 | −0.7 | −0.3 | −0.5 | −1.0 | −0.4 | −0.5 | −0.6 |
| Other light[b] | — | 0.3 | 0.3 | — | — | −0.2 | −1.1 | −0.7 | −0.5 |
| Food | −1.3 | −3.2 | −3.3 | −0.2 | −0.9 | −0.7 | −1.9 | −2.1 | −1.8 |
| Other | 0.9 | 1.6* | 1.7* | −0.6 | 0.3 | 1.6 | −0.3 | −0.5 | −0.9 |

| | Hungary | | | Poland | | | Romania | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1980/ 1976–1980 | 1981/ 1976–1980 | 1982/ 1976–1980 | 1980/ 1976–1980 | 1981/ 1976–1980 | 1982/ 1976–1980 | 1980/ 1976–1980 | 1981/ 1976–1980 | 1982/ 1976–1980 |
| A. *Between the material and non-material spheres* | | | | | | | | | |
| Material sphere | −1.2 | −1.0 | −1.3 | −3.6 | −4.6 | −7.1 | 0.8 | 1.2 | 0.2 |
| B. *Within the material sphere* | | | | | | | | | |
| Industry | −2.0 | −3.3 | −1.9 | −3.7 | −5.8 | −4.5 | 1.4 | 1.2 | −3.4[c] |
| Construction | −0.3 | −1.0 | −1.4 | −0.5 | −2.0 | −3.7 | −1.7 | −1.1 | −0.8 |
| Agriculture | −0.8 | 1.6 | 2.0 | 1.7 | 5.4 | 5.5 | −0.7 | 3.0 | 3.3 |
| Transport and communications | 1.4 | −0.1 | −0.3 | 1.9 | −0.5 | −2.1 | 1.5 | −2.3 | 0.5 |
| Trade[a] | 0.9 | 1.5 | 0.6 | −0.1 | 0.6 | 1.0 | −0.6 | −0.8 | 0.3 |
| Other | 0.7 | 1.1 | 1.0 | 0.7 | 2.2 | 3.9 | .. | .. | .. |
| C. *Within industry* | | | | | | | | | |
| Energy | 4.0 | 3.8 | 6.2 | 3.5 | 2.8 | 5.6 | −0.6 | 1.9 | 6.5 |
| Fuel | 2.8 | 3.0 | 4.6 | 8.3 | 7.7 | 9.6 | 0.3 | 2.4 | 5.4 |
| Metallurgy | 3.1 | 2.1 | −0.1 | −4.1 | −7.5 | −9.7 | — | −2.1 | −2.6 |
| Engineering | −1.0 | −2.2 | −0.3 | −1.8 | — | −2.7 | 3.5 | 1.0 | −3.9 |
| Chemicals | −4.0 | −1.8 | 2.5 | −1.6 | −1.7 | −1.7 | −1.4 | −0.4 | −2.3 |
| Construction materials | −1.4 | −2.4 | −2.5* | −1.2 | −1.3 | −1.3 | −0.1 | −1.0 | −1.5 |
| Wood, paper | −0.8 | 0.4 | −2.5* | −1.2 | −1.2 | −1.5 | −0.7 | −0.7 | −0.4 |
| Textiles | −1.0 | −1.2 | −3.5 | −0.8 | −0.8 | −0.9 | 0.4 | −0.2 | −1.1 |
| Other light[b] | −0.2 | −0.5 | −3.1 | −0.1 | −0.2 | 0.1 | −0.2 | −0.5 | −0.5 |
| Food | −1.7 | −1.6 | −1.5 | −1.2 | 2.2 | 2.3 | −0.8 | 0.2 | 1.4 |
| Other | 0.1 | 0.5 | 0.2 | — | — | 0.2 | −0.5 | −0.6 | −1.0 |

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[227] In Bulgaria, investments in the fuel industry rose from 4 to an estimated 10 per cent of the industry total, but this investment was apparently offset by a fall in energy investment.

TABLE 3.4.2 (*continued*)

| | Soviet Union | | |
|---|---|---|---|
| | 1980/ 1976–1980 | 1981/ 1976–1980 | 1982/ 1976 1980 |
| A. *Between the material and non-material spheres* | | | |
| Material sphere | 0.3 | 0.1 | −0.1 |
| B. *Within the material sphere* | | | |
| Industry | 0.2 | 0.4 | 0.2 |
| Construction | - | −0.2 | 0.1 |
| Agriculture | −0.3 | −0.6 | −1.0 |
| Transport and communications | 0.1 | 0.1 | 0.4 |
| Trade[a] | | | |
| Other | — | 0.3 | 0.3 |
| C. *Within industry* | [d] | [d] | [d] |
| Energy | 0.6 | 0.1 | −0.1 |
| Fuel | 2.4 | 3.9 | 4.8 |
| Metallurgy | −0.7 | −0.6 | −0.5 |
| Engineering | 0.3 | 0.7 | 0.4 |
| Chemicals | −1.5 | −2.2 | −2.0 |
| Construction materials | −0.4 | −0.4 | −0.9 |
| Wood, paper | −0.5 | −0.4 | −0.5 |
| Textiles | — | 0.1 | — |
| Other light[b] | −0.1 | −0.1 | −0.1 |
| Food | — | −0.4 | −0.3 |
| Other | −0.1 | −0.8 | −0.8 |

*Sources:* As for table 3.4.1

*Note.* Changes do not always sum to zero due to rounding

[a] For Romania and the Soviet Union includes other (non-specified) sectors

[b] Except for the Soviet Union, includes clothing, leather and footwear, glass and ceramics, and printing, plus, in the case of the German Democratic Republic and Hungary, wood and paper. For the Soviet Union, includes clothing, leather, furs and footwear only

[c] Based on 1982 data at current prices

[d] Including investment by collective farms in industrial activities (based on Soviet submissions to the United Nations Statistical Office).

for the new and increasingly sophisticated equipment necessary to ensure the adaptation of economic structures to new conditions, also remained high and indeed increased in most, though not all, countries under review. For the most part, the offsetting fall in the share of other branches' investment allocations has been concentrated mainly in energy-intensive branches such as chemicals, building materials and metallurgy, and also in textiles, other light industry and the food industry branches. The adjustment process has thus been quite drastic since the mid-1970s. Developments in policies designed to mitigate its effects by raising investment efficiency are discussed for the region as a whole in the following paragraphs.

### (b) *Investment efficiency*

In 1983, there was no slackening in policies to improve the efficiency of the investment sector which have been a central element of investment strategies for a number of years. Unfortunately, comparable data are only available up to 1982 (table 3.4.3 and 3.4.4), though plan fulfilment reports and plan documents for certain countries contain some information on developments in 1983.

The central aim of the "intensification" strategies in general, as pursued in all countries of the region, is the more efficient use of scarcer and more costly factors of production. Within this framework, the same objective motivates current investment policies. The achievement of higher efficiency in the investment process itself is seen as a first step in arresting the falling capital productivity which has characterized the last decade in almost all sectors and branches in these countries.

Improvements in the efficiency of investment are currently measured by a number of partial indicators. Efforts have been made to *cut lead times for investment activities* by concentrating resources on a smaller number of projects, and also by reducing the number of construction-intensive new projects in favour of the modernization, extension and reconstruction of old plant. The first objective is monitored by the ratio of fixed capital brought into operation to gross fixed capital formation in some countries, or by the share of unfinished construction in total investment. The second development can be followed by examining movements in the share of machinery and equipment, as distinct from expenditures on construction and related expenditures. Progress in both these areas will also depend upon the efficiency of the construction sector. The year 1983 was not considered fully satisfactory in most countries with regard to reducing lead times. However, improvements have taken place compared with the second half of the 1970s. In fact, the ratio of fixed capital brought into operation to gross fixed investment was significantly higher on average in 1981–1982 compared with the 1976–980 average in four of the seven countries of the region (the German Democratic Republic, Hungary, Romania and the Soviet Union). In Hungary and Romania this was doubtless due in part to the fall in the level of investment in the 1980s. However, in Poland, where the fall in investment was considerably bigger, shortages of the materials needed to complete existing projects led to a sharp deterioration in this indicator in 1982. The statistics, together with the comments on the subject in the plan fulfilment reports of several countries, thus suggest that for the region as a whole success in cutting lead times has only been partial during the current five-year plan period. A somewhat less patchy performance was registered with regard to the objective of increasing the share of machinery and equipment expenditures in total investment. This share currently varies between 35–40 per cent in Bulgaria and the Soviet Union to 40–50 per cent in the other countries. The ratio has also risen, comparing the averages for 1981–1982 with those for 1976–1980, in most

## TABLE 3.4.3

### Fixed capital brought into operation

| Country and period | Billions of national currency units: Total | Industry | Construction | Agriculture and forestry | Transport and communications | Percentage of gross fixed capital formation: Total | Industry | Construction | Agriculture and forestry | Transport and communications |
|---|---|---|---|---|---|---|---|---|---|---|
| *Bulgaria*[a] | | | | | | | | | | |
| 1976–1980 . . | 5.576 | 2.161 | 0.178 | 0.820 | 0.730 | 90.1 | 83.8 | 92.2 | 99.0 | 95.3 |
| 1980 . . . . | 6.353 | 2.865 | 0.162 | 0.817 | 0.683 | 88.3 | 95.1 | 91.5 | 91.3 | 85.5 |
| 1981 . . . . | 6.850 | 2.542 | 0.193 | 0.950 | 0.841 | 87.3 | 78.1 | 91.9 | 96.5 | 87.9 |
| 1982 . . . . | 7.671 | 3.463 | 0.211 | 0.755 | 0.941 | 94.7 | 96.7 | 93.0 | 94.8 | 105.0 |
| *Czechoslovakia* | | | | | | | | | | |
| 1976–1980 . . | 134.9 | 51.0 | 6.7 | 16.7 | 17.8 | 94.2 | 93.9 | 90.6 | 101.5 | 92.0 |
| 1980 . . . . | 146.3 | 56.3 | 8.9 | 16.6 | 18.9 | 97.4 | 94.7 | 86.7 | 103.2 | 100.2 |
| 1981 . . . . | 138.9 | 58.1 | 9.8 | 17.1 | 16.5 | 96.9 | 99.1 | 108.0 | 101.7 | 104.4 |
| 1982 . . . . | 128.4 | 50.7 | 7.8 | 17.0 | 14.3 | 91.7 | 90.5 | 83.4 | 96.3 | 89.9 |
| *German Democratic Republic*[b] | | | | | | | | | | |
| 1976–1980* . . | 44.40 | 22.30 | 1.60 | 5.10 | 4.20 | 92.5 | 89.9 | 100.0 | 98.1 | 97.7 |
| 1980 . . . . | 54.51 | 27.14 | . . | . . | . . | 94.1 | 92.5 | . . | . . | . . |
| 1981 . . . . | 52.51 | 27.46 | . . | . . | . . | 93.8 | 90.7 | . . | . . | . . |
| 1982 . . . . | 55.14 | 30.18 | . . | . . | . . | 105.2 | 101.6 | . . | . . | . . |
| *Hungary*[c] | | | | | | | | | | |
| 1976–1980 . . | 162.4 | 61.6 | 3.9 | 18.9 | 23.0 | 87.4 | 84.2 | 68.4 | 73.0 | 93.1 |
| 1980 . . . . | 177.7 | 65.5 | 4.8 | 24.4 | 28.7 | 93.7 | 93.2 | 92.3 | 94.2 | 106.3 |
| 1981 . . . . | 170.0 | 59.7 | 4.8 | 27.9 | 22.8 | 93.0 | 90.6 | 118.4 | 94.0 | 92.8 |
| 1982 . . . . | 171.8 | 59.9 | 3.5 | 28.2 | 21.9 | 92.7 | 87.9 | 88.2 | 92.8 | 88.7 |
| *Poland*[a] | | | | | | | | | | |
| 1976–1980 . . | 535.1 | 208.2 | 32.7 | 116.4 | 54.4 | 83.2 | 83.0 | 101.2 | 109.2 | 92.7 |
| 1980 . . . . | 493.4 | 160.5 | 30.5 | 124.2 | 56.0 | 81.4 | 76.6 | 112.1 | 123.3 | 92.3 |
| 1981 . . . . | 432.9 | 125.1 | 20.6 | 114.2 | 41.6 | 89.8 | 78.9 | 132.1 | 126.0 | 106.9 |
| 1982 . . . . | 751.4 | 214.8 | 24.5 | 219.7 | 58.2 | 71.2 | 70.0 | 131.0 | 107.8 | 91.2 |
| *Romania* | | | | | | | | | | |
| 1976–1980 . . | 153.59 | 69.50 | 10.57 | 22.06 | 17.01 | 82.4 | 75.8 | 95.9 | 85.8 | 85.8 |
| 1980 . . . . | 174.45 | 82.78 | 9.24 | 22.94 | 21.64 | 82.9 | 77.3 | 95.8 | 81.9 | 85.6 |
| 1981 . . . . | 174.25 | 86.41 | 7.44 | 27.65 | 15.56 | 89.1 | 85.7 | 105.8 | 89.8 | 78.9 |
| 1982[a] . . . . | 202.62 | 97.09 | 85.9 | 31.53 | 18.71 | 93.7 | 95.6 | 103.3 | 93.6 | 93.9 |
| *Soviet Union* | | | | | | | | | | |
| 1976–1980 . . | 118.0 | 40.3 | 4.8 | 24.5 | 14.1 | 93.0 | 90.0 | 94.1 | 95.2 | 93.1 |
| 1980 . . . . | 132.0 | 47.6 | 5.3 | 26.4 | 15.3 | 98.7 | 100.0 | 98.1 | 98.1 | 95.0 |
| 1981 . . . . | 132.6 | 45.9 | 5.2 | 27.7 | 15.6 | 95.5 | 92.7 | 96.3 | 100.4 | 93.4 |
| 1982 . . . . | 139.5 | 48.6 | 5.7 | 28.0 | 16.8 | 97.1 | 95.5 | 96.6 | 100.0 | 95.5 |
| 1983 . . . . | 146.0 | . . | . . | . . | . . | 96.8 | . . | . . | . . | . . |

*Sources:* As for table 3.4.1

[a] Current prices

[b] For the German Democratic Republic, figures for 1976–1980 are based on 1975 prices whereas figures for 1980–1982 are based on 1980 prices

[c] Socialized sector only

## TABLE 3.4.4

### Fixed capital formation by type of capital good, output of capital goods industries and foreign trade in machinery and equipment

| Country and period | Annual percentage change: Gross fixed capital formation: Construction work | Gross fixed capital formation: Machinery and equipment | Output of capital goods industries: Construction[a]: Total | Construction[a]: Site work | Building materials industry[b] | Engineering | Foreign trade in machinery and equipment: Exports[c] | Imports[c] | Machinery and equipment: Percentage share in gross fixed capital formation |
|---|---|---|---|---|---|---|---|---|---|
| *Bulgaria* | | | | | | | | | |
| 1976–1980 . . . . . . . | 5.5 | 1.9 | 7.1 | 6.8 | 8.2 | 11.2 | 18.6 | 6.4 | 32.6 |
| 1980 . . . . . . . . . | 8.7 | 6.9 | 4.2 | 3.6 | 4.2 | 5.3 | 15.1 | 7.3 | 30.9 |
| 1981 . . . . . . . . . | 3.3 | 20.8 | 8.3 | 5.9 | 4.0 | 7.1 | 14.3 | 13.9 | 33.8 |
| 1982 . . . . . . . . . | 4.8 | 7.6 | 7.0 | 3.0 | 2.6 | 8.2 | 12.9 | 11.4 | 35.1 |
| 1983 . . . . . . . . . | . . | . . | . . | 3.5 | 2.8 | 11.7 | 12.2 | 8.8 | . . |
| *Czechoslovakia* | | | | | | | | | |
| 1976–1980 . . . . . . . | 2.5 | 6.9 | 3.4 | 5.5 | 4.8 | 8.1 | 13.9 | 11.7 | 40.2 |
| 1980 . . . . . . . . . | 0.5 | 2.8 | 2.5 | 1.3 | 4.0 | 4.6 | 12.2 | 8.0 | 41.7 |
| 1981 . . . . . . . . . | −2.6 | −7.5 | −0.4 | −1.8 | 1.8 | 4.3 | 13.9 | −0.1 | 40.5 |
| 1982 . . . . . . . . . | −4.3 | 0.7 | −3.5 | −3.8 | −2.1 | 3.2 | 10.4 | 4.5 | 41.7 |
| 1983 . . . . . . . . . | 0.4* | −0.5* | . . | 2.4 | 0.4 | 4.8 | 13.0 | 8.5 | 41.5* |
| Plan 1984 . . . . . . . | . . | . . | . . | . . | . . | 6.4 | . . | . . | . . |
| Plan 1981–1985 . . . . | . . | . . | . . | . . | . . | 5.1–5.9 | . . | . . | . . |

TABLE 3.4.4 (*continued*)

| Country and period | Annual percentage change: Gross fixed capital formation: Construction work | Gross fixed capital formation: Machinery and equipment | Output of capital goods industries: Construction[a]: Total | Construction[a]: Site work | Building materials industry[b] | Engineering | Foreign trade in machinery and equipment: Exports[c] | Imports[c] | Machinery and equipment: Percentage share in gross fixed capital formation |
|---|---|---|---|---|---|---|---|---|---|
| *German Democratic Republic* | | | | | | | | | |
| 1976–1980 | 5.2 | 3.9 | 4.5 | 4.2 | 5.7 | 7.0 | 13.0 | 12.6 | 47.0 |
| 1980 | −1.3 | 0.6 | 1.8 | 1.7 | 2.0 | 7.3 | 0.2 | 3.9 | 47.0 |
| 1981 | −1.5 | 7.0 | .. | 3.5 | 1.2 | 6.3 | 10.0 | 10.5 | 49.0 |
| 1982 | −3.1 | −9.9 | .. | 3.4 | −3.1 | 3.8 | 13.2 | 5.3 | 47.2 |
| 1983 | .. | .. | .. | 4.3 | "above plan" | [d] | .. | 35 | .. |
| Plan 1984 | .. | .. | .. | .. | 2.1 | [d] | .. | .. | .. |
| Plan 1981–1985 | .. | .. | 3.4 | .. | .. | 7.0 | .. | .. | .. |
| *Hungary* | [e] | [e] | | [f] | [e f] | [e f] | | | [e g] |
| 1976–1980 | 3.9 | 4.3 | 4.3 | 4.3 | 4.7 | 4.9 | 8.2 | 5.4 | 42.7 |
| 1980 | 4.1 | −10.9 | −4.3 | −3.0 | 1.5 | −5.7 | −5.7 | −14.9 | 41.2 |
| 1981 | 5.6 | −6.1 | 0.4 | −0.2 | 0.2 | 5.7 | 3.1 | −4.6 | 40.8 |
| 1982 | 5.7 | −1.5 | 2.2 | 0.5 | 1.0 | 4.4 | 15.1 | 4.7 | 40.8 |
| 1983 | .. | .. | .. | (−2)–(−3) | 0.8 | 0.6 | 10.5 | 4.0 | .. |
| Plan 1984 | .. | .. | .. | (−2)–(−3) | .. | .. | .. | .. | .. |
| Plan 1981–1985 | .. | .. | .. | 2.1–2.8 | .. | .. | .. | .. | .. |
| *Poland* | | | | | | | | | |
| 1976–1980 | −2.0 | 2.1 | 2.5 | 2.4 | 3.5 | 9.1 | 13.0 | 6.1 | 41.3 |
| 1980 | −17.9 | −5.1 | −9.9 | −10.0 | −0.9 | 0.3 | 5.3 | −0.7 | 44.1 |
| 1981 | −22.8 | −22.9 | −21.0 | −21.6 | −17.6 | −12.0 | −3.9 | −15.1 | 43.6 |
| 1982 | −3.8 | −26.7 | −6.1 | −6.6 | 1.8 | −0.9 | 9.0 | −20.2 | 36.5 |
| 1983 | .. | .. | .. | 4.0 | .. | .. | 8.3 | 13.8 | .. |
| Plan 1984 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Romania* | | | | | | | | | |
| 1976–1980 | 6.6 | 13.8 | 9.2 | 7.2 | 15.0 | 13.6 | 16.5 | 13.7 | 47.4 |
| 1980 | −0.3 | 5.7 | −0.5 | −0.8 | 4.7 | 10.1 | 24.0 | −7.1 | 49.3 |
| 1981 | −6.6 | −10.1 | −6.8 | −4.8 | −0.2 | 2.2 | .. | .. | 48.6 |
| 1982 | .. | .. | .. | .. | 2 * | 3.4* | 3.9 | −14.6 | 47.2* |
| 1983 | .. | .. | .. | .. | .. | 6 | .. | −42 | .. |
| Plan 1981–1985 | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| *Soviet Union* | | | [g] | | | | | | |
| 1976–1980 | 1.2 | 7.2 | 2.6 | 2.6 | 2.4 | 8.9 | 14.7 | 13.4 | 36.2 |
| 1980 | 0.3 | 3.9 | 2.3 | 1.2 | 1.3 | 6.2 | 5.5 | 4.7 | 38.0 |
| 1981 | 1.9 | 5.1 | 2.9 | 2.0 | 1.9 | 5.9 | −0.4 | 5.6 | 38.5 |
| 1982 | 1.8 | 4.7 | 8.2 | 2.8 | 1.9 | 4.8 | 4.1 | 22.0 | 38.9 |
| 1983 | .. | .. | .. | 7[h] | 4 | 6 | .. | 37 | .. |
| Plan 1984 | .. | .. | .. | .. | .. | .. | .. | .. | 42[i] |
| Plan 1981–1985 | 1.0* | 2.9* | .. | .. | .. | 7 | .. | .. | .. |

*Sources:* As for table 3.4.1

*Note:* Five-year figures for 1976–1980 and plan 1981–1985 are geometrical averages

[a] Of the two series shown for construction output, the "total" column refers to all activity according to national accounts definitions and covers site work ("construction-installation work") - shown in the next column - together with planning, design and survey work undertaken by all enterprises, whether or not mainly engaged in construction, and in all sectors of the economy (including private housing and non-housing output). Inter-country coverage for total output is broadly comparable. Site work is the main planning aggregate and refers to building activity proper, including repair and maintenance work. However, historical data are not always fully comparable, either between countries or for a given country, with latest year estimates and plan targets; the coverage may variously include all sectors, the socialized sector only, construction firms' output only, etc. Site work as shown covered 74–86 per cent of total construction activity in 1980 (but only 67 per cent in Bulgaria due to the exclusion of repair and maintenance work). Despite discrepancies, the linking of plan targets with historical series for site work appears to give a fair indication of trends in building output proper

[b] Output of the building materials industry only except for the German Democratic Republic in 1976–1980, 1980 and 1981, for which data refer to output of building materials by all sectors of the economy and industrial branches

[c] At current prices (national currencies) except for Hungary, 1976–1980 only, for which data are expressed in constant 1976 forint prices and the German Democratic Republic for which data are based on transferable roubles. Entries for Poland in 1982 and 1983, and for Romania in 1982, are based on data in domestic currency rather than the valuta currencies used in previous years; for Czechoslovakia, the 1983 entry refers to the rise in the first six months of the year compared with the same period of 1982. For the German Democratic Republic, Romania and the Soviet Union, the entry for 1983 refers to the change in western-reported exports to those countries in the first six months of 1983 compared with the same period of 1982. Corresponding figures for the other countries are Bulgaria: 9 per cent; Czechoslovakia: −13 per cent; Hungary: −37 per cent, Poland: 12 per cent

[d] Plans for 1983 and 1984 for the German Democratic Republic (per cent increases), and the degree of plan fulfilment in 1983 (plan target = 100), were as follows

| | Plan 1983 | Fulfilment 1983 | Plan 1984 |
|---|---|---|---|
| Ministry for electrical and electronic engineering | 8.5 | 100.9 | 8.8 |
| Ministry for heavy machinery and equipment | 5.2 | 101.0 | 2.7 |
| Ministry for machine tools and processing machinery | 8.4 | 100.2 | 6.5 |
| Ministry for general earthmoving and transport machinery | 5.1 | 101.6 | 5.2 |

[e] Socialized sector only

[f] Excluding output of new type of enterprises set up in 1982

[g] At current prices

[h] Net output

[i] State investments only. The five-year plan target for 1984 was 39 per cent

countries of the region but not in Hungary and Poland. Thus, cutbacks in the share of construction in total investment expenditures were, in practice, usually associated with the apparent fall in lead times as indicated by the changes in the ratio between fixed assets brought into operation and investment – at least up to 1982.

With regard to the *construction industry's* performance, recent years have seen sometimes sharp absolute declines in the output of the sector, together apparently with some degree of rationalization of the industry in terms of cuts in employment and improvements in the ratio between net and gross output. Since 1980, net output has tended to fall somewhat less or rise faster than gross, and productivity performance in terms of net output was thus maintained.

The investment slowdown has probably resulted in some easing of the supply situation for investment goods in the 1980s. The trend of construction output has been weaker (except perhaps in most recent years in Bulgaria and the Soviet Union) than the output of building materials.[228] The same was true of investment in machinery and equipment relative to the production of the engineering branches. In contrast, engineering goods were one of the main categories of imports to be cut back during the period of far-reaching foreign trade adjustment – which lasted from 1978 or 1979 to 1982. This trend appears to have been reversed in a number of countries in 1982 or in the first half of 1983, but not in others.[229]

All in all, there is evidence that some improvements in performance have been building up in the investment sector in recent years in line with the policies adopted to counteract the effects of slower investment growth. However, areas of weakness still remain and the results obtained are not considered fully adequate by the authorities concerned, as will be seen from the more detailed country survey which follows.

### (iii) Investment developments by country

With regard to *Bulgaria*, the information on performance in 1983 contained in the plan fulfilment report is rather sparse compared with previous years. The plan for total investment in 1983 was said to have been fulfilled, the outcome totalling about 8 billion leva. This would indicate virtually no rise in investments during the year. It would also bring some fall in the investment ratio and, because NMP growth slackened slightly, some rise in the ICOR. Of the total invested, some 73 per cent was allocated to the material sphere of the economy. This was slightly more than the 72 per cent registered in 1982. More than 7 billion leva worth of fixed assets were also said to have been brought into operation. If this figure is comparable with those given for investment, the ratio of fixed capital brought into operation to investments would be about 88 per cent – roughly the same as performance in recent years. Some criticism was made in the plan fulfilment report of the organization of investment activity. No figures were given for the share of machinery and equipment in total investment, but the rise of 3.5 per cent in construction industry output suggests that it may have declined. There may have been some tightening in the supply of investment goods and services in 1983. Building materials output grew by less than construction output, and though production of engineering goods grew at an accelerated and high rate, exports of machinery and equipment rose still faster and by much more than imports.

Plans for 1984 will probably not include provision for the fast growth of investment. Nevertheless, the plan target of 8,150 million leva is some 8.1 per cent above the 1983 target, but only marginally above the estimated out turn for 1983.

In *Czechoslovakia*, the investment climate for 1983 was determined by a plan target designed to bring about a further modest planned fall in investment expenditures for the third year in succession – though the targeted reduction was much smaller than those of the two previous years. This would have further reduced the investment ratio to about the level implied by the five-year plans, though the low overall growth target also indicated a further rise in the investment cost of growth (ICOR). During 1983, investment expenditures of some 141.8 billion crowns (excluding certain social communal investments and private housing) at current prices were reported. Taking into account an investment price rise of around 6-7 per cent in 1982, and also the fact that in the past investment price rises have been followed by several years of price stability, it can be estimated that little growth in total investment took place in 1983 (the rise in current prices was given as 2.2 per cent). More vigorous output growth than expected, together with the slightly above-plan estimated level of investment, probably combined to bring down the investment ratio by slightly more than planned and also to reverse the almost uninterrupted growth of ICORs since the mid-1970s.

With regard to the structure of investment by sector and branch, the share of industry appears to have fallen slightly in total expenditures (i.e. at current prices investment in industry grew by 1.6 per cent and in total by 2.2 per cent). Fuel and power branches amounted to 39 per cent of the industry total. This would be substantially higher than in 1982 (31 per cent), though the higher figure also includes investment expenditures on a gas transit pipeline.

The plan fulfilment report also noted that 79 out of 91 projects designated for mandatory completion during the year were completed on time – a better performance relative to plans than in 1982. While there was no rise in unfinished construction, a number of important projects were delayed. Even taking into account the sharp fall in the share of unfinished construction in total investment in 1982, it appears that the problem of reducing lead times is still far from resolved. Some of the explanation may be the negligible growth of building materials output – an outcome substantially below expectations. In contrast, engineering output expanded by nearly 5 per cent, though machinery and equipment imports from the developed market economies fell sharply at the beginning of 1983.

Plans for 1984 provide for investments of 150 billion crowns at current prices, which probably represents no growth in volume over 1983. Even given the expected slight rise in NMP growth relative to 1983, this is likely to lead to an investment ratio slightly above that implied by the five-year plans, and also to some fall in ICORs. There is to be an increase in agriculture's share of the total within the material sphere, and, within industry, of the energy and fuel branches' shares. Modernization and reconstruction expenditures will increase, and it was announced that measures have again been taken to shorten investment lead times

No figure for the volume of investment was given for the *German Democratic Republic* in 1983. However, expenditures of 58 billion marks – some 6.8 per cent above the figure given in the plan fulfilment report for 1982 – were reported. Both these figures are, it appears, at current prices. It was also stated that investments in 1983 were "according to plan": on this basis, and taking into account the reported 3.8 per cent rise in the industry sector – which has grown more strongly relative to total investment in all years of the 1980s to date – it can be estimated that growth in 1983 may have been about 3 per cent. This would in fact be substantially above the annual plan target for the year, though it leaves investment somewhat below the levels laid down in the five-year plan. Stronger-than-expected output growth brought about a further fall in the investment ratio and also in the ICOR,[230] which reverted to a level well below the 1976-1980 average, though not as low as the average implied for 1981–1985.

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[228] Available data may be somewhat misleading. Apart from difficulties in identifying construction industry output (see note *a* to table 3.4.4), building materials' output is usually reported on the basis of the building material branch itself. However, other sectors and branches are large producers of building materials and such output in at least one country – the German Democratic Republic – grew significantly faster than that of the branch itself during the 1970s

[229] See section 4.4 below

Apart from industry's investment growth rate, no data were released concerning investment in other sectors or industrial branches in 1983. But the central investment objectives were stated to be the conversion of oil-burning equipment to coal, improvement of industry's foreign trade competitivity, expansion of the raw material and energy bases and better provision for the recycling of waste materials. A further important orientation was the concentration of investment efforts on the introduction of new technology.

No criticism of investment performance was made in the plan fulfilment report. In part, this may be explained by the continuing good results of the construction sector, where output rose by 4.3 per cent. Investment activity was further facilitated by above-plan output of building materials and engineering output as well as, apparently, strong growth of imports of investment goods – at least from non-CMEA suppliers – in the first half of 1983. Investment lead times were stated to have been cut. The share of construction expenditures in total investment fell (to a low point of 24 per cent in industry compared with 28 per cent in 1982). The share of reconstruction expenditures rose in manufacturing industry to 62 per cent.

A central element in plans for 1984 is the objective to increase net output at high rates relative to gross output (8 per cent compared with 4.2 per cent in industry, for example). Investment is expected to play a major role in making available to the production process the necessary technological hardware. The target for "planned" investments – only about 90 per cent of the total – is set at 49 billion marks in 1984. These data suggest, though it is not possible to be very precise, that the investment level in 1984 will not change relative to 1983. But its effectiveness is set to increase: NMP is expected to grow at the same rate as in 1984. With some consequent further fall in the investment ratio, the ICOR would descend to its lowest point since the mid-1970s. It is clear that the German Democratic Republic has achieved considerable success in increasing the productivity of its investment in the past few years, and that this process is expected to continue into 1984.

Developments in *Hungary* were conditioned by a continued fall in investment for the fourth year in succession. The decline of 5 per cent was however less than the 10 per cent planned. It brought about a further decline in the investment ratio which, though quite considerable, was not as big as planned. Slower-than-expected growth performance resulted in a further, even sharper deterioration in the ICOR than had been expected.

No details were given on the sectoral or branch distribution of investment in 1983. Considerable sums were apparently expended to modernize technologies and to economize on materials and energy. The continuing stagnation of output suggests that the results of efforts to restructure the economy have yet to show results in terms of overall growth.

No up-to-date information is available with regard to the reduction of investment lead times, and no partial indicators of the changes in the share of machinery and equipment in total investment, or in the level of unfinished construction, have been published beyond 1982. In that year, the share of machinery investment fell further below the average 1976–1980 levels. The ratio of fixed assets brought into operation also declined slightly. The persistence of problems related to these partial indicators reflects in part mixed progress in the construction sector. A further planned decline in output of 2–3 per cent in 1983 was accompanied by a 2 per cent decline in the labour productivity of the sector. Its performance was also hampered by a below-plan, 0.8 per cent actual rise in the output of building materials, causing shortages which were mainly felt in private residential construction. On the other hand, it was also stated that the construction sector is adjusting better to demand and that desirable changes such as the appearance of smaller, more flexible organizations, have taken place.[231]

Hungary's problems have been compounded by its high foreign trade dependence, and hence the magnitude of the impact of import reductions undertaken to offset very unfavourable terms of trade with its main trading partners over the last few years. These measures may also have affected domestic engineering output, which has grown slower than that of any other country of the region since the late 1970s. Hungary's imports of machinery and equipment have also been cut more than in any other country of the region except Poland, and may have continued to decline in volume terms in both 1982 and 1983.

Plans for 1984 again foresee a 10 per cent cut in investment – a bigger fall than actually took place in 1983. Construction output will probably decline further. Both the engineering and building material industries are expected to increase output, but emphasis in the former case is based upon increasing output for export.

The positive investment turnround in *Poland* in 1983 resulted in the highest growth rate of expenditures in eastern Europe – some 4.8 per cent. A similar turnround of NMP growth, however, held the investment ratio at an unchanged level. The ICOR fell to its lowest point since the early 1970s – to just over half the level planned for the year. Investment growth was in fact just three times as fast as planned, reflecting the urgency of many projects following the last four to five years of large-scale investment cuts.

Little official information has been released on structural allocations by sector of the economy or on the details of progress in improving the efficiency of investment in 1983. However, normal criteria are to some extent irrelevant in the present stage of Poland's massive redressment effort. Data for 1982 indicate a buildup to a 7 percentage point decline in the share of the material sphere in total investment compared with 1976-1980. Within this, the large shift of resources between sectors continued as in previous years. It has now resulted in big decreases in the shares of industry, construction, and transport in total investment, and a large increase in that of agriculture, compared with the average for 1976-1980. With regard to investment sector efficiency, the scanty information available suggests that some improvements have taken place – including an upturn of 4 per cent in construction sector output in 1983, which reverses four years of continuous decline. However, the programme for bringing into operation new projects was not implemented in 1983 – the share of fixed assets brought into operation in total investment had also fallen by over 18 percentage points in the previous year – and the share of construction work, rather than of machinery and equipment expenditures, in total investment rose.

Investment work has clearly been adversely affected by the shortages in supplies of investment goods – whether of domestic origin (engineering output declined by about 1 per cent in 1982) or foreign (imports of machinery and equipment fell by 15 and 20 per cent respectively in 1981 and 1982) but recovered sharply with a 14 per cent rise in 1983.[232] However, the recovery of domestic activity, the continued effort to hold down consumption and shift resources towards exports and import saving should now begin to offer the Polish authorities some room to manoeuvre with regard to investments. Nevertheless a cautious approach is being followed in the plans for 1984. Very large increases in the prices of investment goods were imposed in 1982 – on average they more than doubled.[233] The investment target for 1984 is negative – a 2.8 per cent decline over 1983. Further concentration of investment projects is to be achieved by giving priority to projects scheduled for completion in 1984-1985, and it is expected that the initiation of new projects will be held to a minimum. Priorities in outlays will be given to the food economy, housing, fuels and energy, which will together account for 74 per cent of all investment outlays in the year. A precondition of the 1984 housing programme is a reduction in the unit costs of construction of 7 per cent, in particular by economies in materials and better organization of work. Help is to be given to industrial firms whose financial position has become untenable due to the recent economic crisis; these funds will be directed, in particular, to the financing of investment.

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[230] The plan report stated that "The increase in marketable goods production resulting from investments and which was planned for 1983, was accomplished". *Neues Deutschland*, 19 January 1984.

[231] *Népszabadság*, 28 December 1983.

In *Romania*, 1983 saw a more than 5 percentage point recovery in the investment growth rate: following the 2.5 per cent decline recorded in 1982, a rise of 2.9 per cent took place in 1983. This was considerably higher than the 0.7 per cent planned. Unlike some of the other countries of the region, this improved performance was not achieved in conjunction with high or higher-than-planned rates of NMP growth. On the contrary, the NMP plan target of 5 per cent growth was not achieved, though the 3.4 per cent increase reported was rather bigger than in 1982. The investment ratio thus fell marginally but was still somewhat higher than planned. The improvement in growth also led to a fall in ICOR for the second consecutive year, though the fall was not as big as implied in the annual plan and the level of the ICOR was about twice as high as the objective for 1981–1985 as a whole.

The allocation of investment between the material and non-material spheres has remained very stable in the late 1970s and the 1980s so far. Some important sectoral shifts within the material sphere took place in 1982 but, on first indications, the shares stabilized in 1983. In the former year, there was a very large, 4.6 percentage point fall in industrial investment, as well as a recovery in expenditures on transport and communications to the share they held in 1976-1980. Data at current prices for 1982 show that, as compared with the late 1970s, the 3.4 percentage point decline in industry's share was exactly reflected by an increase in that of agriculture. Within industry, the principal increment in 1982 compared with the previous year was a further, nearly 8 percentage point rise in allocations to the energy and fuel branches combined. Offsetting reductions affected mainly the engineering industry and chemicals.

Some 470 important projects were fully or partly brought into operation in 1983 – compared with a target of more than 500 planned, which itself was a reduction over 1982. The plan fulfilment report noted that the reason for the shortfall in investment and the bringing into operation of new capacities was shortcomings in investment planning and preparation, a slackening in site work activity, and difficulties in the delivery of equipment. Nevertheless, it appears that some shortening of investment lead times was accomplished. This is suggested by a further sharp improvement in the ratio of fixed assets brought into operation to investments compared with 1982. The year 1982 also saw a fairly sharp fall in the share of machinery and equipment in total investment expenditures.[234]

Plans for 1984 foresee total investment expenditures of 252 billion lei at current prices, and a rise of 4 per cent in volume terms.[235] Since an ambitious NMP growth target of over 7 per cent has also been established, the attainment of targets would result in a decrease in the investment ratio to a level lower than implied by the five year plan target – which was based on the attainment of far higher growth rates in 1981-1983 than were actually realized. It would appear that large-scale investment growth is envisaged largely in order to re-establish the prior high proportion of industry, which would climb to 60 per cent of material sphere investment compared with about 55 per cent in 1983. In order to speed up the construction and commissioning of investment, stricter guidelines than hitherto have been laid down in the law on the plan to ensure the co-ordination and timely implementation of the various stages of work.

In the *Soviet Union*, developments in the investment sector in 1983 were conditioned by further above-plan buoyancy in capital spending – a rise of 5 per cent in volume, compared with a target of about 3 per cent, to over 150 billion roubles. With NMP growth probably also slightly faster than expected, the investment ratio was only marginally higher than planned. The ICOR was somewhat lower than expected and about the same as in the previous year – altogether, slightly above the average for 1976–1980 but 1 1/2 percentage points below the average planned for 1981–1985. Thus, progress was made in curbing the investment costs of growth to an extent not foreseen for the current plan period.

Little official information was given on the allocation of investment resources for 1983. Within the material sphere – which has roughly maintained its 1976-1980 position during the current quinquennium to date – the share of the agriculture and food complex remained constant. No data on other sectors or industrial branches are available.

Apparently only limited advances were made in the reduction of investment lead times. The share of unfinished construction in total investment was said to have fallen. This would be in line with the movement of fixed assets brought into operation – which rose by 6 per cent or slightly more than total investment. The volume of fixed assets brought into operation expressed as a share of gross fixed capital formation increased by 0.3 percentage points compared with 1982. Thus, the ratio now stands well above the average for 1976-1980. The annual plan for 1983 expected a rise in the share of machinery and equipment in total investment to 42.1 per cent (compared with 38.9 per cent in 1982). This planned level is, in fact, the same as has now been laid down for achievement in 1984 (see below) suggesting that little progress was in fact made in this respect in 1983.

Few data were published for 1983 on the construction sector on a basis comparable with previous years' data. However, net output apparently rose by 7 per cent and a labour productivity gain of 3 per cent was also announced. Thus there seems to have been a noticeable upturn in the trend and efficiency of construction activity during the year.

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[232] Preliminary data suggest that by exports of machinery and equipment the developed market economies to Poland rose by 12 per cent in the first six months of 1983

[233] The rise in investment goods prices in 1982 compared with 1983 was 150 per cent in total, 100 per cent for machinery and equipment and nearly 200 per cent for construction work.

[234] However, these conclusions are based on estimates. The Romanian yearbook for 1983 does not contain investment data in constant prices for the most recent years. Although index numbers are given, comparisons of recent events with previous trends are increasingly difficult

[235] In fact, prices for investment as a whole appear to have risen by 6.4 per cent in 1981, 15.5 per cent in 1982 and a further 4 per cent in 1983 – a total of 28 per cent since 1980. The plan targets in value and volume suggest a further 4 per cent price rise in 1984

Supplies of investment goods from domestic resources rose more than proportionally to investment expenditures in 1983 – by 6 per cent in the case of engineering output, and by 4 per cent for building materials. Nevertheless, the rise in engineering output achieved in 1981-1983 is below the rise implied by the five-year plan targets. Against this, there was a sharp upturn in machinery and equipment imports by 22 per cent in 1982. Incomplete data suggest that there was also a very large, 37 per cent rise in machinery and equipment imports from the developed market economies in the first half of 1983.

Plans for 1984 are not altogether clear. As noted earlier growth in 1983 was stronger than expected when a target figure for 1984 of 3.9 per cent over 1983 was given. In fact, the target in monetary terms of 149.6 billion roubles is slightly lower than the "over 150 billion roubles" reported for 1983. In any event, a further fall in the investment ratio is likely.

Machinery and equipment is planned to account for 42 per cent of total investment – more than the 39 per cent five-year plan objective for that year. Unfinished construction is to fall by 3.5 billion roubles to 75 per cent of the value of investment – compared with 84 per cent in 1982 and a "norm" of 72 per cent. Construction work by subcontractors (i.e. excluding construction operations of non-construction-sector enterprises) is to rise by 6 per cent over 1983.

## 3.5 CONSUMER INCOMES AND SUPPLIES

The level and pace of growth of NMP produced determine the growth of resources available for domestic use in the centrally planned economies of eastern Europe and the Soviet Union. On the other hand, the allocation decisions determine the pace of growth of investments and consumption. Through various mechanisms, resources for personal consumption and also for social consumption are distributed among the employed and other categories of the population. Nominal incomes received in this way, and also other non-wage incomes, combined with price policy and the free availability of services from social consumption funds, determine the overall level of living standards in the countries concerned.

Accordingly, in this sub-section the allocation of national income will be analysed first (sub-section (i)). This is followed by assessments of: nominal incomes and income policy, (sub-section (ii)); income originating in the social consumption fund, (sub-section (iii)); consumer goods prices and price policy, (sub-section (iv)); real incomes, (sub-section (v)); retail trade, (sub-section (vi)); dwelling construction, (sub-section (vii)) and the structure of personal consumption (sub-section (viii)).

### (i) The allocation of national income

The allocation of national income to accumulation and consumption in the centrally planned economies of eastern Europe and the Soviet Union has particular features associated with various stages of economic development. They are determined by the growth of NMP produced, economic growth priorities and other objective factors of the specific historical situation. In previous periods, priority was given to accumulation, since it was a necessary condition for overall economic growth. At the present stage, priority is given to consumption because development of overall social policy is treated as a precondition for further economic development (table 3.5.1).

The 8th five-year plan for the period 1981–1985 in *Bulgaria* contains a guideline for improving in the allocation of national income; the accumulation fund should be 25 per cent and the consumption fund 75 per cent of national income used by the end of the period.[236] In the first three years of the five-year period the allocation of national income was virtually the same as envisaged by the plan.

In *Czechoslovakia* and *Hungary*, the share of consumption in national income increased considerably between the average for 1976–1980 and 1982 (in the case of Hungary 1983) – from 74.3 per cent to 79.4 per cent in the former and from 76.7 per cent to 87 per cent in the latter country. The general objectives of economic policy have been to improve efficiency and to bring about a shift in resources in favour of exports of a variety of goods and services. This policy necessitated a higher rate of growth of NMP produced as compared with NMP utilized for net capital formation and consumption. Since policy simultaneously aimed to maintain or to improve living standards, the share of NMP allocated to consumption had to expand at the expense of the share allocated to accumulation. This orientation has been followed in all three years of the five-year plan period so far (except in 1982 in Czechoslovakia).

In the *German Democratic Republic*, shifts in the percentage share of each category of NMP use were relatively small. Consumption, which in 1976–1980 was about 77 per cent – with Hungary, the highest share in the region – rose to about 80 per cent in recent years.

In *Poland*, the absolute contraction in national income between 1978 and 1982 was accompanied by efforts to maintain living standards. However, due to unfavourable economic circumstances, the contraction in NMP used for domestic consumption and accumulation needed to be bigger than for NMP produced in 1978–1982. The share of consumption expanded at the expense of accumulation. Since in 1983 investment increased for the first time in the 1980s, there may have been a rise in the share of accumulation in NMP used.

In *Romania*, NMP produced grew much slower than expected (on average by 2.7 per cent in 1981–1983 as compared with 7.1 per cent envisaged by the five-year plans). No information is available on the shares of consumption and accumulation in NMP used in 1982 and 1983.

In the *Soviet Union*, long-term trends in the allocation of the national income – incorporated already in previous and current five-year plans – include faster growth in consumption relative to accumulation. The five-year plan for 1981–1985 envisaged an increase in consumption's share of the national income to 78 per cent by 1985. In the first three years of the current five-year plan period, the average share of consumption in NMP used was about 75 per cent.

### (ii) Nominal incomes and income policy

A noticeable orientation toward linking labour remuneration more closely with the quantity and quality of work performed has been a feature of development strategy in the current five-year plans. Accordingly the same time there is an increasing determination to link the rate of wage and salary growth to labour productivity growth. Experience in the countries concerned indicates that labour remuneration according to the brigade form of work organization helps to meet these general requirements.

In most countries of the region at present, labour remuneration policy is directed to a faster increase in wages and salaries in agriculture and the branches of the national economy (coal industry, metallurgy, transport, etc.) which are particularly important for overall economic development. In Hungary and Romania, a faster increase in wages and salaries in the export industries, and in the Soviet Union in the eastern regions of the country, has been carried out.

Income from social consumption funds in most countries used to grow at a faster rate than wage income, but the difference between the two is declining. The general thrust of incomes policy in the region remained unchanged in 1983.

Among different kinds of personal income in the centrally planned economies of the region, the basic form is *money income* (table 3.5.2).

The available data demonstrate that the biggest changes in nominal money income occurred in *Poland*, where, nonetheless, real incomes dropped sharply in 1982 and grew only

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[236] *Trud*, Sofia, 12 December 1981

TABLE 3.5.1

**Allocation of national income**
(*Percentage share*)

| Period | Accumulation | | | Consumption | | |
|---|---|---|---|---|---|---|
| | | *of which:* | | | *of which:* | |
| | Total | Fixed capital | Inventory | Total | Personal | Social |
| *Bulgaria* | | | | | | |
| 1976–1980 | 25.6 | .. | .. | 74.4 | .. | .. |
| 1980 | 25.0 | .. | .. | 75.0 | .. | .. |
| 1981 | 26.7 | .. | .. | 73.3 | .. | .. |
| 1982 | 25.3 | .. | .. | 74.7 | .. | .. |
| 1983 | 25 | .. | .. | 75 | .. | .. |
| *Czechoslovakia* | | | | | | |
| 1976–1980 | 25.7 | 21.0 | 4.7 | 74.3 | 54.3 | 20.0 |
| 1980 | 26.0 | 18.5 | 7.5 | 74.0 | 53.8 | 20.2 |
| 1981 | 20.1 | 17.3 | 2.8 | 79.9 | 57.5 | 22.4 |
| 1982 | 20.6 | 16.8 | 3.8 | 79.4 | 57.0 | 22.4 |
| *German Democratic Republic* | | | | | | |
| 1976–1980 | 23.0 | .. | .. | 77.0 | 64.0 | 13.0 |
| 1980 | 22.7 | .. | .. | 77.3 | 64.9 | 12.4 |
| 1981 | 21.7 | .. | .. | 78.3 | 65.7 | 12.5 |
| 1982 | 18.0 | .. | .. | 82.0 | 68.9 | 13.1 |
| 1983 | 20.0 | .. | .. | 80.0 | .. | .. |
| *Hungary*[a] | | | | | | |
| 1976–1980 | 23.3 | 17.5 | 5.8 | 76.7 | .. | .. |
| 1980 | 19.6 | 17.1 | 2.4 | 80.4 | 69.5 | 10.9 |
| 1981 | 17.8 | 13.9 | 3.9 | 82.2 | 71.1 | 11.1 |
| 1982 | 15.8 | 12.2 | 4.6 | 84.2 | 72.6 | 11.5 |
| 1983 | 13* | .. | .. | 87* | .. | .. |
| *Poland*[b] | | | | | | |
| 1976–1980 | 28.4 | 24.0 | 4.4 | 71.6 | 60.0 | 11.6 |
| 1980 | 25.6 | 23.7 | 1.9 | 74.4 | 65.1 | 9.3 |
| 1981 | 20.7 | 20.0 | 0.7 | 79.3 | 69.7 | 9.3 |
| 1982 | 21.6 | 17.9 | 3.7 | 78.4 | 66.4 | 12.0 |
| *Romania* | | | | | | |
| 1976–1980 | 36.3 | .. | .. | 63.7 | .. | .. |
| 1980 | 36* | .. | .. | 64* | .. | .. |
| 1981 | 34* | .. | .. | 66* | .. | .. |
| 1982 | 30* | .. | .. | 70* | .. | .. |
| *Soviet Union* | | | | | | |
| 1976–1980 | 25.9 | .. | .. | 74.1 | .. | .. |
| 1980 | 23.9 | .. | .. | 76.1 | .. | .. |
| 1981 | 23.7 | .. | .. | 76.3 | .. | .. |
| 1982 | 26.2 | .. | .. | 73.8 | .. | .. |
| 1983 | 25.0* | .. | .. | 75.0* | .. | .. |

*Sources:* National statistics, plans and plan-fulfilment reports.
[a] On the basis of 1981 prices.
[b] From 1980, on the basis of 1982 prices.

slightly in 1983. In *Hungary*, the average annual percentage change in money income in the first three years of the current five-year period was 7.6 per cent, similar to the retail price increase in the country, in the *Soviet Union* money income rose by 4 per cent, in *Czechoslovakia* by 3.2 per cent and in the *German Democratic Republic* by 2.7 per cent. On the basis of other indicators, it is estimated that the annual percentage change in total money income in *Bulgaria* was about 3 per cent. In *Romania* the cash income of the population in the socialist sector was reported to have increased by 5.1 per cent in 1983.

Differences in the rise in money income among the countries of the region reflect, on one hand, consumer goods price changes, and on the other hand policies to redistribute resources originating in the social consumption fund.

*Average monthly nominal wages* in general increased at rates similar to money income (table 3.5.3).

In *Bulgaria*, the annual increase over 1981–1983 was 3.1 per cent for the whole economy, to reach 202 leva per employed person in the latter year. A further increase of 2.5 per cent is envisaged for 1984.

In *Czechoslovakia*, average monthly nominal wages in the socialized sector (excluding agricultural co-operatives) over the first three years of the current five-year period increased by 1.9 per cent annually, reaching about 2,800 crowns in 1983. The major feature of the evolution of wage and salary systems is the emphasis laid upon widening wage differentials to reflect performance levels.[237]

In the *German Democratic Republic*, as in Czechoslovakia, the average annual rate of growth of the average monthly nominal wage was moderate – some 1.5 per cent.

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[237] *Rudé právo*, 25 November, 1983.

TABLE 3.5.2

**Money incomes**
*(Average annual percentage change)*

| Country and period | Total money income | Wage and wage-like income | Income from agriculture | Pensions and social benefits | |
|---|---|---|---|---|---|
| | | | | Total | Pensions |
| *Bulgaria* | | | | | |
| 1976–1980 | .. | 7.3 | 9.0 | 9.2 | 10.9 |
| 1980 | .. | 12.1 | 6.3 | 25.7 | 21.0 |
| 1981 | .. | 6.5 | 6.8 | 0.9 | 6.8 |
| 1982 | .. | 3.5 | 2.8 | 7.8 | 9.7 |
| 1983 | .. | .. | .. | .. | .. |
| Plan 1984 | .. | .. | .. | .. | 5.7 |
| Plan 1981–1985 | .. | .. | .. | 3.2 | .. |
| *Czechoslovakia* | | | | | |
| 1976–1980 | 4.1 | 4.0 | 1.6 | 5.7 | 6.2 |
| 1980 | 4.0 | 3.3 | 5.5 | 8.1 | 7.2 |
| 1981 | 2.6 | 2.6 | 2.3 | 1.9 | 3.3 |
| 1982 | 4.1 | 3.3 | 6.2 | 8.2 | 7.9 |
| 1983 | 3.0 | 3.0 | .. | .. | .. |
| Plan 1984 | 1.6 | .. | .. | .. | .. |
| *German Democratic Republic* | | | | | |
| 1976–1980 | 3.6 | 2.8 | .. | .. | 4.9 |
| 1980 | 2.5 | 1.5 | .. | .. | 10.5 |
| 1981 | 3.1 | 2.4 | .. | .. | .. |
| 1982 | 2.7 | 1.9 | .. | .. | .. |
| 1983 | 2.3 | .. | .. | .. | .. |
| Plan 1984 | 2.2 | .. | .. | .. | .. |
| Plan 1981–1985 | 3.7 | .. | .. | .. | .. |
| *Hungary* | | [a] | | | |
| 1976–1980 | 9.4 | 7.5 | 8.4 | 12.9 | 15.6 |
| 1980 | 9.5 | 2.6 | 12.9 | 15.7 | 16.0 |
| 1981 | 7.4 | 4.4 | 11.0 | 8.4 | 9.3 |
| 1982 | 8.1 | 5.0 | 11.3 | 8.5 | 12.9 |
| 1983 | 6.5–7* | 3.0* | 8.8* | 9.1 | 10.0 |
| Plan 1984 | 8 | .. | .. | .. | .. |
| *Poland* | | | [b] | | |
| 1976–1980 | 11.2 | 9.7 | 10.8 | 16.5 | 19.7 |
| 1980 | 12.1 | 13.0 | 8.8 | 15.6 | 17.4 |
| 1981 | 31.1 | 27.0 | 109.0 | 37.0 | 28.7 |
| 1982 | 64.9 | 51.0 | 35.4 | 139.0 | 43.2 |
| 1983 | 24.7 | .. | .. | .. | .. |
| Plan 1984 | 13.8 | .. | .. | .. | .. |
| *Romania* | | | | | |
| 1976–1980 | .. | 5.4 | 6.1 | .. | 3.5 |
| 1980 | .. | 6.5 | .. | .. | 1.5 |
| 1981 | 6.3 | 5.0 | 2.5 | .. | 3.4 |
| 1982 | 9.5[c] | 7.9 | .. | .. | 3.6 |
| 1983 | 5.1[c] | .. | .. | .. | 1.3 |
| Plan 1984 | .. | .. | 2.7 | .. | .. |
| *Soviet Union* | | | [d] | | |
| 1976–1980 | 4.9 | 5.0 | 3.2 | 5.5 | 6.6 |
| 1980 | 5.2 | 5.2 | 1.1 | 7.3 | 7.8 |
| 1981 | 3.7 | 3.5 | 1.1 | 5.4 | 6.3 |
| 1982 | 4.3 | 3.9 | 4.7 | 5.7 | 6.8 |
| 1983 | .. | 3.0* | 7.0* | 4.6* | .. |

*Sources* As for table 3.5.1

[a] Wages only (excluding wages paid by agricultural cooperatives)

[b] Non-socialized sector only, 1976–1979

[c] Cash incomes in the socialist sector.

[d] Collective farmers only

*Hungary* experienced the second highest rates of growth of the average monthly nominal wage in 1983 – 4.6 per cent. This exceeded the forecast made in the annual plan for 1983.[238]

In *Poland* a very fast increase in average monthly nominal wages took place in 1981–1982. As a result of measures taken to regulate the growth of money income in line with available supplies, the increase in monthly wages in 1983 was almost halved. However, it was still about 25 per cent per year, which implies that inflationary pressures have not yet been checked.

In *Romania*, a law setting out basic principles for improving labour remuneration and the distribution of income was adopted in 1983. A programme was worked out to improve labour remuneration. Since 1 September, 1983, there have been gradual increases in wages and salaries for various categories of workers. This process is expected to finish by the end of 1984.

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[238] *Népszabadság*, 28 December, 1983.

TABLE 3.5.3

**Average monthly nominal wages**

| Country | Average wages in 1983 (in national currency units) | Percentage changes | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1976–1980 | 1980 | 1981 | 1982 | 1983 | 1984 Plan |
| Bulgaria | 202 | 4.9 | 13.0 | 5.2 | 2.5 | 2.4 | 2.5 |
| Czechoslovakia | 2 790[a] | 2.8 | 2.3 | 1.5 | 2.3 | 1.9 | . . |
| German Dem. Rep. | 1 082 | 3.0 | 1.5 | 2.4 | 1.9 | 1.5* | . . |
| Hungary | 5 240 | 6.2 | 7.4 | 5.8 | 5.5 | 4.6 | 4.8–5 |
| Poland | 14 510 | 8.0 | 13.5 | 27.3 | 46.2 | 25.4[b] | . . |
| Romania | 2 610 | 4.3 | 6.2 | 4.6 | 7.9 | 3.0 | . . |
| Soviet Union | 182[c] | 3.0 | 3.4 | 2.1 | 2.8 | 2.6 | 2.2 |

*Sources:* As for table 3.5.1.

[a] Average monthly wages of employees in the socialist sector of the national economy (excluding united agricultural co-operatives).

[b] Socialized economy.

[c] 254 roubles, if payments and benefits from social funds are included.

In the *Soviet Union*, special attention has been devoted to patterns of income distribution in 1983, notably with the aim of ensuring that wages and salaries better correspond with the quantity and quality of labour contributions. Special measures were undertaken to ensure that wages grow slower than labour productivity. The average monthly wage of workers and employees increased by 2.6 per cent, to 182 roubles. Wages of collective farmers rose faster – by 7 per cent, to 138 roubles. Taking into consideration payments and benefits from social funds, the average monthly wage of workers and employees amounted to 254 roubles per month, an increase of 6.7 per cent as compared with 1982. During 1983, the faster growth of wages for some categories of workers and employees in state agricultural enterprises and state farms in different regions continued. This benefited workers in Siberia, the Urals, the Far East and elsewhere. Workers employed in livestock production received an additional payment for continuous service at the same workplace. A new system of regional adjustment of the wages of agricultural workers and employees was also introduced in some regions of the Urals and Kazakhstan. The 1984 plan provides for an increase in the average monthly wage of workers and employees to 185.5 roubles (2.2 per cent), and in the average monthly labour remuneration of collective farmers to 142.2 roubles (3 per cent). An important problem relevant to the rise in money income is balancing the aggregate income and expenditure of the population; another is linking the growth of labour remuneration more closely with labour productivity increases. Beginning in 1984, a standard (normative) relationship between the growth of labour productivity and wages (including bonuses and other payments from the material incentive fund) will be laid down for industrial ministries and their constituent organizations and enterprises.[239]

### (iii) Income originating in the social consumption fund

The social consumption fund is an important component of total income. It is distributed as a social right enjoyed by all categories of the population in order to satisfy needs for health care, education, culture and other public services, and also includes pensions and social welfare benefits. Payments from social consumption funds usually take the form of money benefits such as pensions, student grants, allowances, temporary incapacity allowances, additional payment for children or the free supply of some material goods and services, (for instance medical care, education, kindergarten, sporting and cultural facilities). Benefits from the social consumption fund in recent years increased faster than earned incomes.

*The share of income originating in the social consumption funds* in total income in the 1980s was 32–40 per cent (excluding Poland) (table 3.5.4). The biggest component of the fund consists of cash payments for *pensions and social benefits*, which account for between 35 per cent (in the German Democratic Republic) and 58 per cent (in Hungary) of the total. The second biggest consists of expenditures on *education and cultural activities*. The share of these expenditures in the social consumption fund is very similar – ranging from 21 per cent in Czechoslovakia to 28 per cent in the Soviet Union. The share of expenditures for *health care* is also similar in most countries, accounting in 1982 for between 14.5 per cent (in the Soviet Union) and 18 per cent (in the German Democratic Republic and Poland) of the total. The shares of these three classes of expenditure in the structure of the social consumption fund has been rather stable, but their absolute size has constantly increased.

In *Czechoslovakia*, the monthly average pension increased by 3.8 per cent, to reach 1,515 crowns in 1982. Much attention was paid to improving medical services and education. It is planned gradually to reconstruct the school system and to raise the educational standard and qualifications of graduate specialists. A further extension and improvement in health care is expected from increases in the number of doctors and nurses in health institutions and the supply of improved equipment.[240]

In the *German Democratic Republic*, the share of the social consumption fund in total incomes of population reached about 35 per cent in 1983. In 1984 there will be a 6.7 per cent increase in expenditures from the social fund of the state budget to improve and develop education.

In *Hungary* measures to improve social welfare were taken in 1983. Some new hospitals were put into operation, which helped to raise the level of medical care. In 1984, financial allocations for social welfare should increase by almost 12 per cent in nominal terms.

In *Romania* per capita expenditures under the state budget for socio-cultural purposes increased by 12.5 per cent in 1983 over 1980, and reached 3,654 lei. The average monthly pension rose by 3.5 per cent to 1,547 lei over the previous year. From 1 May 1984, pensions are to be raised, with the lowest pensions increasing most. The average nominal pension will reach 1,775 lei per month.

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[239] Report of N.K. Baibakov "The USSR State plan of economic and social development for 1984 and plan fulfilment in 1983", *Pravda*, 29 December, 1983.

[240] Report of S. Potáč to the 9th Session of the Central Committee of the Communist Party of Czechoslovakia on the state plan of economic and social development of Czechoslovakia in the year 1984, *Rudé právo*, 25 November 1983.

In the *Soviet Union*, a number of measures have been carried out to improve the social welfare system. Among other measures, pension supplements for retired workers and employees who remained at the same enterprise for not less than 25 years (20 years for women with children) were increased by 10–20 per cent in 1983. A new scheme was introduced in 1983 granting young mothers the right to one year's paid leave to take care of babies. The 1984 plan provides for the further development of education, culture and health care institutions, improvements in social and cultural services, rises in pensions and social benefits, and an improvement in the distribution of social funds.

### (iv) Consumer goods prices and price policy

Retail prices have a regulatory function in balancing the nominal income of the population and the supply of consumer goods and services. Retail prices for goods in state and co-operative trade are managed by the state or are under state control.

During the last 10–15 years, retail price increases for certain foods and industrial consumer goods based on agricultural raw materials in most countries concerned reflected changes in the system of state purchase prices for some of these raw materials. As the main aim of these actions was to adjust retail price relatives, significant money resources were simultaneously allocated to provide compensatory additional payments through wages or from social consumption funds to many groups within the population.

Available data indicate that during the first three years of the current five-year period, the annual percentage changes in the

TABLE 3.5.4

**Social consumption fund**

*(Share in total incomes of population and percentage structure)*

| Country and period | Social consumption funds to total incomes of population (%) | Structure of social consumption fund: Pensions and social benefits | Education and culture[a] | Health | Other[b] |
|---|---|---|---|---|---|
| *Bulgaria* | | | | | |
| 1970 | 32.6 | 46.1 | 22.0 | 13.4 | 18.5 |
| 1975 | 34.3 | 44.1 | 22.6 | 14.4 | 18.9 |
| 1980 | 35.8 | 45.8 | 21.8 | 15.0 | 17.4 |
| 1981 | 36.6 | 43.6 | 23.6 | 16.4 | 16.4 |
| 1982 | .. | 44.1 | 23.3 | 16.5 | 16.1 |
| *Czechoslovakia* | | | | | |
| 1970 | 34.2 | 51.9 | 20.1 | 15.0 | 13.0 |
| 1975 | 36.6 | 48.3 | 20.9 | 15.2 | 15.6 |
| 1980 | 38.4 | 49.7 | 20.7 | 15.7 | 13.9 |
| 1981 | 38.9 | 48.7 | 20.8 | 15.9 | 14.6 |
| 1982 | .. | 48.9 | 20.9 | 16.0 | 14.2 |
| *German Democratic Republic* | | | | | |
| 1970 | 29.3 | 41.5 | 24.3 | 15.3 | 18.9 |
| 1975 | 32.9 | 38.7 | 24.7 | 15.8 | 20.8 |
| 1980 | 33.4 | 37.1 | 21.7 | 17.9 | 23.3 |
| 1981 | 34.1 | 35.4 | 23.3 | 18.0 | 23.3 |
| 1982 | 34.6 | 34.5 | 23.8 | 18.1 | 23.6 |
| *Hungary* | | | | | |
| 1970 | 22.6 | 48.9 | 23.9 | 16.7 | 10.5 |
| 1975 | 27.2 | 56.0 | 21.3 | 14.6 | 8.1 |
| 1980 | 31.9 | 58.2 | 20.7 | 13.8 | 7.3 |
| 1981 | 32.0 | 57.3 | 21.2 | 14.7 | 6.8 |
| 1982 | 33.0 | 57.3 | 21.3 | 14.7 | 6.7 |
| *Poland* | | | | | |
| 1970 | 19.0 | 40.8 | 28.0 | 25.3 | 5.9 |
| 1975 | 18.9 | 39.8 | 27.0 | 26.9 | 6.3 |
| 1980 | 21.3 | 44.8 | 20.8 | 25.7 | 8.7 |
| 1981 | 21.0 | 45.4 | 20.3 | 23.6 | 10.7 |
| 1982 | 26.3 | 32.6 | 17.0 | 18.3 | 32.1 |
| *Soviet Union* | | | | | |
| 1970 | 37.2 | 34.9 | 29.3 | 15.6 | 20.2 |
| 1975 | 38.7 | 37.3 | 27.9 | 14.3 | 20.5 |
| 1980 | 39.6 | 37.9 | 27.0 | 14.7 | 20.4 |
| 1981 | 39.8 | 38.2 | 26.6 | 14.6 | 20.6 |
| 1982 | 40.1 | 38.7 | 28.4 | 14.5 | 18.4 |

*Sources:* As for table 3.5.1 and *CMEA Statistical Yearbook 1983*

[a] Including student grants

[b] Including housing subsidies

consumer price index in most centrally planned economies of eastern Europe and the Soviet Union (table 3.5.5) were lower than the growth rates of money income of the population.

In *Bulgaria*, following retail price adjustments in 1979–1980, measures to maintain stable retail prices for food and non-food goods were implemented. Thus, in 1981 the rise in the consumer price index was 0.5 per cent, and in 1982 0.3 per cent. No comprehensive data for 1983 have been reported, though in mid-1983 there were some food price increases.

In *Czechoslovakia*, retail prices increased by 0.9 per cent in 1983. In the last two years there have been some rises in retail prices for meat and motor car fuel, but retail prices were simultaneously reduced for certain consumer durables – notably refrigerators, TV and radio sets.[241]

TABLE 3.5.5

**Consumer price index**
(*Average annual percentage change*)

| Country and year | Total | Food | Non-food | Services |
|---|---|---|---|---|
| *Bulgaria* | | | | |
| 1976–1980 | 4.0 | 6.2 | 2.4 | .. |
| 1980 | 14.0 | 24.7 | 6.6 | .. |
| 1981 | 0.5 | 0.3 | 0.7 | .. |
| 1982 | 0.3 | 0.6 | 0.1 | .. |
| *Czechoslovakia* | | | | |
| 1976–1980 | 2.1 | 1.2 | 2.8 | 2.6 |
| 1980 | 2.9 | 0.2 | 4.4 | 6.5 |
| 1981 | 0.8 | 0.0 | 1.5 | 0.7 |
| 1982 | .. | .. | .. | .. |
| 1983 | 0.9 | .. | .. | 1.0 |
| *German Democratic Republic* | | | | |
| 1976–1980 | 0.1 | — | 0.3 | — |
| 1980 | 0.5 | — | 1.3 | — |
| 1981 | 0.2 | — | 0.5 | — |
| 1982 | — | — | — | — |
| *Hungary* | | [a] | | |
| 1976–1980 | 6.3 | 8.5 | 5.4 | 4.0 |
| 1980 | 9.1 | 13.4 | 8.5 | 7.0 |
| 1981 | 4.6 | 3.4 | 6.1 | 6.5 |
| 1982 | 6.9 | 4.8 | .. | 7.2 |
| 1983 | 7.3 | 5.1 | .. | 10.2 |
| 1984 plan | 7–8 | .. | .. | .. |
| *Poland* | | [a] | | |
| 1976–1980 | 6.8 | 7.9 | 6.5 | 7.9 |
| 1980 | 9.4 | 12.8 | 8.5 | 8.4 |
| 1981 | 21.2 | 22.5 | 13.1 | 27.1 |
| 1982[b] | 109.4 | 162.8 | 85.6 | 62.9 |
| 1983 | 25 | .. | .. | .. |
| 1984 plan | 15–16 | 15–16 | .. | .. |
| *Romania* | | | | |
| 1976–1980 | 1.4 | 1.0 | .. | 1.6 |
| 1980 | 2.2 | 1.8 | .. | 1.4 |
| 1981 | 2.0 | 1.7 | 1.9 | 3.1 |
| 1982 | 16.0[b] | .. | .. | .. |
| 1983 | 2.8* | .. | .. | .. |
| *Soviet Union* | | [a] | | |
| 1976–1980 | 0.7 | 0.4 | 1.0 | .. |
| 1980 | 1.0 | 1.0 | 2.0 | .. |
| 1981 | 0.9 | 0.2 | 1.4 | .. |
| 1982 | 4.0 | 0.4 | 3.0 | .. |

*Sources*: As for table 3.5.1

[a] Excluding alcoholic beverages and tobacco

[b] International Monetary Fund, *International Financial Statistics*, January 1984 p 370

In the *German Democratic Republic*, the level of retail prices for many food and non-food goods has remained unchanged for many years. A policy to ensure stable retail prices is carried out by means of large state subsidies.

In *Hungary*, significant retail price rises were followed by increases in the money income of the population. In 1983, consumer prices increased by 7.3 per cent and further rises amounting to 7–8 per cent are envisaged in 1984.

In *Poland*, substantial increases in retail prices for food products were higher than for non-food items in the 1980s. In 1982, the annual percentage change of retail food prices was twice as high as for non-food goods (162.8 per cent and 85.6 per cent respectively).

In *Romania*, the consumer price level rose by some 22 per cent in 1981–1983 – about the same rate as money incomes.

In the *Soviet Union*, retail prices for many basic food products have been unchanged since the end of the 1950s. Rents have not changed for more than 50 years. The production of many consumer goods is subsidized by the state. Retail price rises are not usually imposed on basic necessities, but on such items as alcohol, tobacco, luxury goods.

In order to reduce stocks of unsold goods, some consumer goods prices were lowered on three occasions in 1983, saving purchasers more than 3 billion roubles (about 0.6 per cent of NMP produced).

### (v) Real incomes

In plan fulfilment reports and the statistical sources, real incomes in eastern Europe and the Soviet Union are expressed in per capita terms. They increased in all countries under consideration in the first three years of the current quinquennium except Poland and Romania. In Hungary, real incomes of the population in 1983 remained at the 1982 level, and no increase is envisaged for 1984. In Poland, data for recent years indicate a substantial fall in the level of real income. In 1982 alone it decreased by some 18 per cent. According to plan targets for 1984 it is envisaged that the level of real income will progress by 1–2 per cent. In Romania, per capita real incomes in 1983 were probably somewhat below the 1980 level.

The growth of real incomes in the region during the period under review decelerated in comparison with the previous five-year period (table 3.5.6). In fact, the five-year plans for the period 1981–1985 envisaged slower growth rates of real incomes than in the previous quinquennium. This is explained by certain features of present overall economic development which, among other things, involve a slower growth of NMP in all the countries concerned (see section 3.1(iv)).

The highest annual growth rate of real incomes in three years of the current plan took place in *Bulgaria*, where it attained 4.2 per cent. This is higher than in the previous five-year period (2.6 per cent) and also higher than the planned average annual rate of growth envisaged for the current five-year period (2.8 per cent).

In *Czechoslovakia*, the average annual rate of real income growth in the first three years of the current five-year period was probably slightly lower than in the previous quinquennium.

In the *German Democratic Republic*, the average annual rate of growth of real incomes was 3.2 per cent in 1981–1983 – below the planned annual average (3.9 per cent). In 1983, real income increased by 2.3 per cent.

In *Hungary*, economic policy aims, at the present stage, to maintain the level of living standard already achieved. Further increases in real incomes depend mostly on solving problems in

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[241] P. Kostka, *Ekonomicheskaya gazeta*, 1983, no. 47, p. 21.

TABLE 3.5.6

**Real wages and real incomes**
(*Average annual percentage change*)

| Period | Real wages per wage- or salary-earner | Real income per head of population | Real wages per wage- or salary-earner | Real income per head of population |
|---|---|---|---|---|
| | *Bulgaria* | | *Romania* | |
| 1976–1980 | 0.5 | 2.6 | 6.1 | 5.1 |
| 1980 | −0.3 | 3.4 | 3.0 | 2.4 |
| 1981 | 4.7 | 5.8 | 1.1 | 2.2 |
| 1982 | 2.2 | 4.1 | −7.0[a] | .. |
| 1983 | .. | 2.8 | — | .. |
| Plan 1984 | .. | 2.5 | .. | 1.3* |
| Plan 1981 1985 | .. | 2.8 | 2.9 | 3.6 |
| | *Czechoslovakia* | | *Soviet Union*[b] | |
| 1976–1980 | 0.7 | 1.3 | 3.0 | 3.4 |
| 1980 | −1.0 | 0.1 | 3.4 | 3.7 |
| 1981 | 0.8 | 1.6 | 2.1 | 3.3 |
| 1982 | .. | .. | 2.8 | 0.1 |
| 1983 | .. | 1.6* | 2.6 | 2.0 |
| Plan 1984 | .. | .. | 2.2 | 3.5 |
| Plan 1981–1985 | .. | .. | 2.8 | 3.1 |
| | *German Democratic Republic* | | *Byelorussian SSR*[a] | |
| 1976–1980 | 4.5 | 4.3 | 3.7 | 3.6 |
| 1980 | 4.3 | 3.1 | 3.8 | 2.8 |
| 1981 | 4.6 | 4.0 | 2.1 | 4.7 |
| 1982 | .. | 3.3 | 2.8 | 0.5 |
| 1983 | .. | 2.3 | 1.8 | 4.1 |
| Plan 1984 | .. | .. | 2.4 | 3.5 |
| Plan 1981 1985 | .. | 3.9–4.2 | 2.6 | 3.1 |
| | *Hungary* | | *Ukrainian SSR*[a] | |
| 1976–1980 | 0.7 | 1.8 | 3.0 | 3.2 |
| 1980 | −1.6 | 0.4 | 4.3 | 2.4 |
| 1981 | 1.1 | 2.9 | 1.8 | 5.0 |
| 1982 | −1.2 | 0.3 | 2.8 | 0.6 |
| 1983 | −2.5 | — | 1.8 | 1.7 |
| Plan 1984 | .. | — | .. | 2.8 |
| Plan 1981–1985 | .. | 1.1–1.4 | 2.3 | 3.2 |
| | *Poland* | | | |
| 1976–1980 | 2.0 | 2.9 | | |
| 1980 | 3.4 | 1.0 | | |
| 1981 | 2.4 | 3.3 | | |
| 1982 | −25.1 | −18.0 | | |
| 1983 | .. | .. | | |
| Plan 1984 | .. | 1–2 | | |

*Sources* As for table 3.5.1

[a] Estimated on the basis of consumer price index shown in table 3.5.5 and nominal wage increase shown in table 3.5.3

[b] Average nominal wages

foreign economic relations. The average annual percentage change of real income in the first three years of the current five-year period was virtually equal to planned growth (some 1 per cent).

In *Romania*, the 1984 plan envisages an increase of 5 per cent in the real income of the population relative to 1980, while no figure in this respect was published for 1983.

In the *Soviet Union*, real incomes increased by 2 per cent in 1983, as compared with the 3.1 per cent average annual growth envisaged for the 1981–1985 five-year plan. The objective for 1984 lays down an annual growth rate (3.5 per cent) higher than envisaged for the five-year period.

### (vi) Retail trade

The attainment of balance between the demand for and supply of different consumer goods and services in east European countries and the Soviet Union is managed through the retail trade and services networks. Economic mechanisms through which this is usually done include the systematic monitoring of the demand structure, changes in the quality and the range of consumer goods on sale, etc.

In most countries of the region, the average annual percentage changes in retail trade over the first three years of the current five-year period were lower than in 1976–1980 (table 3.5.7). This reflected the changes in the real incomes of the population over the same period. Only in *Bulgaria* and *Czechoslovakia* were the average annual percentage changes in retail trade higher than in 1976–1980. In Czechoslovakia for 1982 and 1983 and in Bulgaria for 1983 the annual percentage changes are calculated in current prices, so that real increase in retail trade turnover was lower than reported. In the *German Democratic Republic* and *Romania* during the first three years of the current five-year period, there was a deceleration in the rate of growth of retail trade and services turnover. After a substantial decrease in 1980–1981 by almost 20 percentage points, retail trade in *Poland* recovered by some 6 per cent in 1983. The turnover of retail trade and services in the *Soviet Union* increased by 2.7 per cent in 1983, as compared with a 4.2 per cent annual average rate of growth envisaged in the five-year plan (1981–1985). Plans for 1984 foresee an increase in the growth rates of retail trade turnover and the supply of services in Bulgaria, the German Democratic Republic, Romania, the Soviet Union and Poland.

In *Bulgaria*, retail trade in non-food goods in current prices increased at a higher rate than food products in 1982. In *Czechoslovakia*, trade in non-food products grew faster than trade in food products (4 per cent and 1.7 per cent respectively). In 1984, retail trade turnover is to expand faster than money income of the population. In the *German Democratic Republic*, a higher rate of growth was recorded in trade in food products over the period 1980–1982. In *Hungary*, retail trade turnover and services virtually stagnated in 1983, while in the previous year the rate of growth had been moderate (1.2 per cent).

In *Poland*, the supply of rationed goods to shops in 1983 was adequate to meet entitlements. The flow of some non-rationed foodstuffs increased, but was still inadequate to meet current needs and demand – in part due to shortages in previous years. Deliveries of some industrial consumer goods, including durables (washing machines, refrigerators, cars and fabrics) were higher.

In *Romania*, the turnover of retail sales through socialized trade increased by 0.5 per cent in 1983, after a decline in real terms in the preceding year. Of this sum, 35 per cent was accounted for by food goods, 45 per cent by non-food products and 20 per cent by services.

In the *Soviet Union*, as already mentioned, sales in state and co-operative retail trade turnover increased by 2.7 per cent in 1983. Supplies of many kinds of non-food goods increased, including building materials for private construction. The supply of services also expanded – especially in the far eastern regions of the country. The 1984 plan provides for a significant increase in the volume of retail trade turnover. Turnover of consumer goods is expected to rise by 5.4 per cent above the 1983 level, and above the 4.2 per cent envisaged on average by the five-year plan. Supplies of many food and non-food goods should increase even faster.

### (vii) Dwelling construction

In almost all of the centrally planned economies of the region, long-term dwelling construction programmes have been approved and are being carried out. These programmes

TABLE 3.5.7

**Turnover of retail trade and services**
(*Average annual percentage change*)

| Country and year | Total | Food | Non-food | Services |
|---|---|---|---|---|
| *Bulgaria* | | | | |
| 1976–1980 | 3.9 | 2.4 | 4.7 | .. |
| 1980 | 3.0 | −0.3 | 5.3 | .. |
| 1981 | 4.6 | 4.8 | 4.5 | .. |
| 1982 | 4.5 | 2.6 | 6.1 | .. |
| 1983 | 3.8[a] | .. | .. | .. |
| Plan 1984 | 4.2 | .. | .. | 6.2 |
| Plan 1981–1985 | 3.9 | .. | 6.2 | 8.5 |
| *Czechoslovakia* | | | | |
| 1976–1980 | 1.7 | 2.3 | 1.2 | 5.5 |
| 1980 | −0.4 | 2.9 | −3.4 | 9.3 |
| 1981 | 1.5 | 2.5 | 0.6 | 2.6 |
| 1982[a] | 2.9 | 4.6 | 1.3 | −4.2 |
| 1983[a] | 2.9 | 1.7 | 4.0 | .. |
| Plan 1984 | 1.9 | .. | .. | .. |
| *German Democratic Republic* | | | | |
| 1976–1980 | 4.1 | 3.4 | 4.8 | .. |
| 1980 | 4.5 | 3.2 | 5.8 | .. |
| 1981 | 2.5 | 2.9 | 2.1 | .. |
| 1982 | 1.0 | 2.1 | — | .. |
| 1983 | 0.5 | .. | .. | .. |
| Plan 1984 | 2.2 | .. | .. | .. |
| Plan 1981–1985 | 3.7 | .. | .. | .. |
| *Hungary* | | | | |
| 1976–1980 | 2.6 | 1.9 | 3.2 | 3.6 |
| 1980 | 0.1 | 1.5 | −1.1 | 3.9 |
| 1981 | 3.2 | 2.2 | 4.0 | 3.8 |
| 1982 | 1.2 | 0.6 | 1.6 | 4.2 |
| 1983 | 0.2 | 0.1 | 0.2 | .. |
| *Poland* | | *b* | | |
| 1976–1980 | 3.3 | 3.4 | 3.7 | 7.3 |
| 1980 | 1.4 | −0.3 | 2.0 | 5.3 |
| 1981 | −4.6 | −8.1 | 7.5 | 0.4 |
| 1982 | −17.4 | −16.0 | −21.0 | −12.0 |
| 1983[c] | 6 | −1 | 14 | 8 |
| Plan 1984 | 8.6 | 3.1 | 10.5 | 10.0 |
| *Romania* | | | | |
| 1976–1980 | 7.9 | 7.4 | 8.4 | 11.4 |
| 1980 | 6.6 | 5.5 | 6.3 | .. |
| 1981 | 4.2 | 2.4 | 6.4 | 7.5 |
| 1982 | −3.1[d] | .. | .. | .. |
| 1983 | 0.5 | .. | .. | .. |
| Plan 1984 | 3.0 | 2.5 | .. | 12.7 |
| Plan 1981-1985 | 4.8 | .. | 4.8 | 12.0 |
| *Soviet Union* | | | | |
| 1976–1980 | 4.5 | 3.5 | 5.4 | 7.5 |
| 1980 | 5.2 | 4.4 | 6.7 | 7.2 |
| 1981 | 4.3 | 1.8 | 6.9 | 6.2 |
| 1982 | 0.3 | 0.6 | −0.1 | 4.7 |
| 1983 | 2.7 | .. | .. | 6.0 |
| Plan 1984 | 5.4 | .. | .. | 8.5 |
| Plan 1981–1985 | 4.2 | .. | .. | 7.6 |
| *Byelorussian SSR* | | | | |
| 1976–1980 | 4.7 | 4.1 | 5.0 | 7.7 |
| 1980 | 5.3 | 4.5 | 4.4 | 8.1 |
| 1981 | 4.0 | 1.6 | 6.7 | 6.7 |
| 1982 | −1.4 | 0.8 | −6.3 | 5.3 |
| 1983 | 4.4 | .. | .. | 6.7 |
| Plan 1981–1985 | 3.1 | .. | .. | 7.0 |
| *Ukranian SSR* | | | | |
| 1976–1980 | 4.1 | 3.1 | 5.0 | 8.4 |
| 1980 | 4.3 | 2.9 | 5.0 | 4.6 |
| 1981 | 3.3 | 1.3 | 5.0 | 4.7 |
| 1982 | 0.2 | −0.1 | 0.5 | 3.7 |
| 1983 | 2.8 | .. | .. | 6.6 |
| Plan 1984 | 5.3 | .. | .. | 7.6 |
| Plan 1981–1985 | 3.9 | .. | .. | 7.1 |

*Sources* As for table 3.5.1

[a] In current prices

[b] Excluding alcoholic beverages

[c] Socialized economy

[d] Based on the increase in current prices and the consumer price change reported in table 3.5.5

include provisions to increase the average size of apartments and to improve the quality of construction and supplies of new equipment. In most countries of the region, housing policy for the 1980s is intended to ensure that every family has a separate flat and, in the near future, a separate room for each member of the family. Great attention is being paid to co-operative dwelling construction (table 3.5.8).[242]

In *Bulgaria*, housing policy has three important aspects. First, it is intended to provide each family member with a separate room by 1990. The state plays the principal role in dwelling construction. Secondly, reconstruction of existing dwellings is expected to play a significant role in solving the housing problem. Third, improvements are to be made in the allocation of new and existing apartments. In 1983 – similarly to 1981–1982 – some 70,000 dwellings were constructed, as compared with 90,000 annual average envisaged in the current five-year plan.

In *Czechoslovakia*, on average 130,000 new dwellings were built annually in 1976-1980. In 1981-1983, however, the average annual number of new dwellings completed was about 97,000, as compared with an average of 96–110,000 envisaged in the current five-year plan. Within that total, co-operative dwelling construction developed at a higher rate. In 1983, about 300,000 persons (some 2 per cent of the total population) persons were supplied with new apartments. About 2,600 apartments were reconstructed.

In the *German Democratic Republic*, the housing programme is treated as "the focal point of social policy".[243] Under the provisions of the 1981–1985 plan targets, 42–45 per cent of new housing construction is being carried out by co-operatives. A specific feature of policy is the creation of favourable conditions for young couples and aged persons. In 1983, the housing programme was fulfilled. Around 122,000 new dwellings annually have been constructed during recent years – on an average 4 per cent more than planned.

In 1984, it is planned to spend 22 billion marks (10.5 per cent of the state budget) on housing construction. Some 55 per cent of this sum is intended for new construction, 6.4 per cent for modernizing flats, 22.3 per cent for building repairs and 16.8 per cent for the provision of services. The plan objective is to build 117,000 new dwellings.

In *Hungary*, special attention has been paid to solving housing problems in urban areas. The construction of new buildings is undertaken together with the construction of such facilities as shops, service establishments, schools, kindergartens, hospitals and cinemas. The intention is to mobilize private monetary resources on a higher scale for housing construction. In 1981-1983 an average 76,000 dwellings were built, as envisaged in the current five-year plan. About 78 per cent of new dwellings built in 1983 were financed through housing co-operatives and from individual financial resources. Since 1 July, 1983, rents in state apartments have increased, but some groups of the population have been partly compensated by higher social benefits.[244]

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[242] For details of the types of arrangement under which dwelling construction has been financed, see *Economic Survey of Europe in 1982*, United Nations, New York 1983, p. 197

[243] *Aus dem Bericht des Politburos des Zentral Komitees der SED*, Dietz Verlag, Berlin, 1983, p. 23 (Seventh session of SED Central Committee. Report by Werner Felfe)

[244] *Népszabadság*, 1 July 1983

### TABLE 3.5.8

### New dwellings constructed

| Country and period | New dwellings (thousands) | | | | New units per 100,000 inhabitants | Average size of dwellings in square metres |
|---|---|---|---|---|---|---|
| | Total | State | Co-operative | Individual | | |
| *Bulgaria* | | | | | | |
| 1976–1980 | 351.8 | .. | .. | | 800 | 60.7 |
| 1980 | 74.3 | .. | .. | | 838 | 59.0 |
| 1981 | 71.4 | .. | .. | | 803 | 62.0 |
| 1982 | 68.2 | .. | .. | | 764 | .. |
| 1983 | 68.8 | .. | .. | | .. | .. |
| Plan 1981–1985 | 360.0 | .. | .. | | 810* | .. |
| *Czechoslovakia* | | | | | | |
| 1976–1980 | 648.2 | 264.6 | 197.9 | 185.7 | 860 | 41.5 |
| 1980 | 128.9 | 50.5 | 46.0 | 32.4 | 840 | 44.3 |
| 1981 | 95.4 | 32.4 | 33.6 | 29.4 | 623 | 45.6 |
| 1982 | 101.8 | 29.7 | 42.0 | 30.1 | 663 | 52.7 |
| 1983 | 94.2 | 20.2 | 45.0 | 29.0 | 612* | .. |
| Plan 1981–1985 | 480–550 | .. | .. | .. | .. | .. |
| *German Democratic Republic* | | | | | | |
| 1976–1980 | 559.4 | 290.3 | 197.5 | 71.6 | 668 | 61.8 |
| 1980 | 120.2 | 62.0 | 39.2 | 19.0 | 718 | 62.7 |
| 1981 | 125.7 | 64.8 | 39.4 | 21.5 | 753 | .. |
| 1982 | 122.4 | 64.6 | 39.5 | 18.3 | 702 | .. |
| 1983 | 122.6 | .. | .. | .. | .. | .. |
| Plan 1984 | 117.5 | .. | .. | .. | .. | .. |
| Plan 1981–1985 | 600.0 | .. | 252–270 | 60.0 | .. | .. |
| *Hungary* | | | | | | |
| 1976–1980 | 452.7 | 162.2 | 290.5 | | 837 | 66 |
| 1980 | 89.1 | 30.4 | 58.7 | | 835 | 67 |
| 1981 | 77.0 | 22.8 | 57.2 | | 722 | 70 |
| 1982 | 75.6 | 19.1 | 56.5 | | 706 | 70 |
| 1983 | 74.3 | 16.3 | 58.0 | | 695 | .. |
| Plan 1981–1985 | 370–380 | 115–120 | 255–260 | | .. | .. |
| *Poland* | | | | | | |
| 1976–1980 | 1308.3 | 245.0 | 724.2 | 339.1 | 749 | 62.0 |
| 1980 | 217.1 | 39.4 | 122.0 | 55.7 | 610 | 64.0 |
| 1981 | 187.0 | 32.0 | 109.0 | 46.0 | 519 | 63.9 |
| 1982 | 185.3 | 31.5 | 97.8 | 56.0 | 509 | 67.2 |
| 1983 | 195.5 | 34.7 | 103.0 | 57.8 | .. | 67.5 |
| Plan 1984 | 190.0 | 130.0[a] | | 60.0 | .. | .. |
| *Romania* | | | | | | |
| 1976–1980 | 840.6 | 755.3 | | 85.3 | 770 | 74.2 |
| 1980 | 197.8 | 186.6 | | 11.2 | 891 | 74.4 |
| 1981 | 161.4 | 150.5 | | 10.9 | 730 | 75.0 |
| 1982 | 161.2 | 150.1 | | 11.1 | .. | 78.7 |
| 1983 | 146.7 | 135.4 | | 11.3 | .. | .. |
| Plan 1981–1985 | 900.0 | 800.0 | | 100.0 | .. | .. |
| *Soviet Union* | | [b] | | | | |
| 1976–1980 | 10241 | 8388 | | 1853 | 784 | 51.5 |
| 1980 | 2004 | 1667 | | 337 | 755 | 52.3 |
| 1981 | 1997 | 1646 | | 351 | 746 | 53.3 |
| 1982 | 2003 | 1652 | | 351 | 742 | 53.9 |
| 1983 | 2000 | .. | | .. | 734* | .. |

*Sources:* As for table 3.5.1

[a] Public sector

[b] State and co-operatives

In *Poland*, some 196,000 flats were completed in 1983, slightly more than in 1982, but below the average number built in 1976–1980 (some 260,000). The annual plan targets for 1983 however were fulfilled. The plan for 1984 envisages the completion of 190,000 dwellings.

In *Romania*, the population is rather evenly distributed throughout the country, which simplifies the solution of housing problems. In 1983 about 146,700 new flats were constructed (of which 92.5 per cent were financed by the state) as compared with an average of 168,000 in 1976–1980 and an average of 180,000 envisaged by the five-year plan for 1981–1985.

In the *Soviet Union*, some 110 million m² of housing space (2 million flats) was made available in 1983. Housing construction in rural areas increased at a high rate, with more than 33 million m² of housing space completed – more than planned for 1983. In addition, co-operative housing construction contributed to a better balance between the income and expenditure of the population.

In 1984, state capital investments in all branches of the non-productive sphere including housing will total 24 billion roubles (about 4.3 per cent of NMP used for domestic consumption and accumulation) – more than envisaged by the five-year plan. Housing construction from all sources of finance is planned at a total area of 109 million m² – 6.6 per cent above the five-year plan target for 1984. Co-operative and individual housing construction will be substantially extended. The completion of co-operative flats will increase by 20 per cent over the five-year plan for 1984, and that of private flats by 11.5 per cent. In the first four years of the current five-year period, some 40 million people (15 per cent of total population) will improve their housing conditions.

The state budget will allocate 5 billion roubles (roughly 1 per cent of NMP used) for maintenance and repairs of housing administered by local councils in 1984.

### (viii) The structure of personal consumption

During the 1980s no substantial changes in the dynamics and structure of consumption took place in the centrally planned economies of eastern Europe and the Soviet Union. Gradual changes, which have tended to produce some levelling out in the levels and structures of expenditures by different social groups, however, were recorded. Within consumption as a whole, the absolute amount of non-food goods has increased in all countries, although its share in the structure of family expenditures has not risen by so much. This can be explained

TABLE 3.5.9

**Structure of family expenditure**

(*Percentage distribution, total expenditure = 100*)

A: Workers' families. B: Peasant families. C: Non-manual workers' families.

| | Food | | | Textiles, clothes footwear | | | Consumer durables | | | Maintenance of dwellings | | | Money savings | | | Other | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C | A | B | C |
| *Bulgaria* | | | | | | | | | | | [a] | | | | | | | |
| 1970 . . . | 33.9 | 34.8 | 29.1 | 9.6 | 9.0 | 9.6 | 4.7 | 4.5 | 4.3 | 8.1 | 7.2 | 6.1 | 11.2 | 12.2 | 12.9 | 32.5 | 32.3 | 38.0 |
| 1975 . . . | 32.0 | 33.6 | 28.8 | 9.2 | 7.4 | 9.6 | 4.2 | 4.2 | 4.3 | 6.2 | 6.6 | 5.5 | 13.4 | 14.3 | 12.5 | 35.0 | 33.9 | 39.3 |
| 1980 . . . | 36.8 | 41.4 | 34.9 | 8.9 | 6.9 | 9.1 | 3.8 | 3.4 | 3.9 | 6.1 | 6.0 | 6.2 | 9.0 | 15.8 | 8.9 | 35.4 | 26.5 | 37.0 |
| 1981 . . . | 36.7 | .. | 34.4 | 9.0 | .. | 9.1 | 3.9 | .. | 4.0 | 6.7 | .. | 6.2 | 9.3 | .. | 9.2 | 34.4 | .. | 37.1 |
| 1982 . . . | 36.4 | 37.8 | 33.5 | 8.5 | 7.9 | 9.0 | 4.1 | 4.2 | 3.9 | 6.2 | 6.2 | 5.6 | 9.7 | 8.8 | 9.5 | 35.1 | 35.1 | 38.5 |
| *Czechoslovakia* | | | | | | | | | | | | | | | | | | |
| 1970 . . . | 33.3 | 26.4 | 29.5 | 9.7 | 11.4 | 9.2 | 17.2 | 23.9 | 18.2 | 11.5 | 10.2 | 13.8 | 9.2 | 17.2 | 9.9 | 9.1 | 10.9 | 19.4 |
| 1975 . . . | 29.8 | 27.1 | 26.7 | 9.1 | 10.3 | 9.1 | 19.5 | 25.6 | 19.9 | 11.3 | 9.9 | 13.3 | 10.2 | 15.2 | 10.7 | 20.1 | 11.9 | 20.3 |
| 1980 . . . | 27.0 | 26.0 | 24.4 | 9.6 | 11.1 | 9.9 | 17.7 | 23.7 | 18.4 | 12.9 | 11.9 | 14.8 | 10.5 | 13.4 | 10.4 | 22.3 | 13.9 | 22.1 |
| 1981 . . . | 26.3 | 25.1 | 24.4 | 9.3 | 10.8 | 10.0 | 18.1 | 24.2 | 17.5 | 13.0 | 11.8 | 15.1 | 11.0 | 13.7 | 10.9 | 22.3 | 14.4 | 22.1 |
| 1982 . . . | 26.5 | 25.3 | 24.9 | 9.0 | 10.5 | 9.3 | 17.6 | 23.2 | 17.2 | 12.9 | 12.1 | 14.9 | 11.3 | 14.2 | 11.5 | 22.7 | 14.7 | 22.2 |
| *German Democratic Republic* | | | | | | | | | | | | | [b] | [b] | | | | |
| 1970 . . . | 27.1 | 28.2 | .. | 12.3 | 12.7 | .. | 16.5 | 16.5 | .. | 4.5 | 3.0 | .. | 22.6 | 18.3 | .. | 17.0 | 21.3 | .. |
| 1975 . . . | 28.6 | 26.9 | .. | 12.6 | 12.6 | .. | 20.2 | 20.5 | .. | 4.4 | 2.7 | .. | 11.5 | 17.6 | .. | 18.8 | 19.7 | .. |
| 1980 . . . | 27.1 | 26.5 | .. | 12.6 | 12.6 | .. | 22.3 | 23.9 | .. | 4.2 | 2.4 | .. | 15.5 | 17.3 | .. | 18.3 | 17.3 | .. |
| 1981 . . . | 27.4 | 26.9 | .. | 12.3 | 12.8 | .. | 22.7 | 24.8 | .. | 4.3 | 2.4 | .. | 15.0 | 15.7 | .. | 17.5 | 17.4 | .. |
| 1982 . . . | 25.8 | 24.7 | .. | 12.0 | 11.5 | .. | 20.0 | 23.4 | .. | 4.1 | 2.6 | .. | 17.8 | 21.5 | .. | 21.1 | 16.3 | .. |
| *Hungary* | | | | | | | | | | | | | | [c] | | | | |
| 1970 . . . | 37.6 | 41.3 | 30.3 | 15.4 | 13.8 | 15.6 | 8.6 | 8.4 | 9.8 | 15.4 | 14.7 | 16.1 | .. | 5.6 | .. | 17.4 | 16.2 | 22.6 |
| 1975 . . . | 32.6 | 34.8 | 26.7 | 14.5 | 13.5 | 13.8 | 9.5 | 9.8 | 11.1 | 16.0 | 15.1 | 17.2 | .. | 6.0 | .. | 21.4 | 20.8 | 2.52 |
| 1980 . . . | 33.8 | 35.9 | 28.0 | 11.0 | 10.8 | 10.5 | 9.1 | 8.5 | 11.5 | 16.4 | 14.7 | 17.7 | .. | 6.9 | .. | 22.8 | 23.2 | 25.4 |
| 1981 . . . | 33.3 | 34.4 | 27.1 | 10.6 | 10.7 | 10.5 | 9.7 | 8.8 | 10.9 | 15.9 | 15.4 | 17.7 | .. | 10.8 | .. | 19.7 | 20.1 | 23.0 |
| 1982 . . . | 33.2 | 34.6 | 26.7 | 10.0 | 9.8 | 10.1 | 8.1 | 8.0 | 10.5 | 16.0 | 15.4 | 17.4 | .. | 9.8 | .. | 22.9 | 22.4 | 25.5 |
| *Poland* | [d] | | | | | | | | | | | | | | | | | |
| 1970 . . . | 46.7 | 53.9 | .. | 15.7 | 16.0 | .. | 14.8 | .. | .. | 14.8 | | | . | | | | .. | .. |
| 1975 . . . | 41.1 | 49.6 | .. | 15.4 | 12.5 | .. | 10.4 | 15.8 | .. | 15.5 | 12.4 | .. | | | | | . | .. |
| 1980 . . . | 42.9 | 44.6 | 37.3 | 15.0 | 12.7 | 14.8 | 15.5 | 23.8 | 17.2 | 14.9 | 12.6 | 14.9 | | | | | . | .. |
| 1981 . . . | 41.9 | 41.8 | 36.3 | 16.2 | 12.3 | 15.4 | 16.6 | 29.2 | 18.8 | 14.3 | 11.2 | 14.0 | | | | . | . | .. |
| 1982 . . . | 49.2 | 48.2 | .. | 11.4 | 10.5 | 13.4 | .. | .. | .. | 9.3 | 9.9 | 11.2 | | | | | | . |
| *Romania* | | | | | | | | | | | | | | | | | | |
| 1970 . . . | 45.7 | 63.1 | .. | 17.6 | 14.1 | .. | 11.4 | 6.4 | .. | 14.7 | 11.2 | .. | .. | .. | .. | 10.6 | 5.2 | . |
| 1975 . . . | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | . |
| 1980 . . . | 45.6 | 62.7 | .. | 17.5 | 13.8 | .. | 11.2 | 6.1 | .. | 15.2 | 12.5 | .. | .. | .. | .. | 10.5 | 4.9 | .. |
| 1981 . . . | 46.8 | 62.9 | .. | 17.6 | 14.2 | .. | 11.2 | 6.0 | .. | 15.7 | 13.0 | .. | .. | .. | .. | 8.7 | 3.9 | |
| *Soviet Union* | | | | | | | | | | [e] | [c] | | | | | | | |
| 1970 . . . | 35.7 | 40.4 | .. | 15.5 | 15.7 | .. | 5.8 | 4.9 | .. | 2.7 | 1.8 | .. | 4.1 | 6.4 | .. | 36.1 | 30.8 | |
| 1975 . . . | 32.9 | 37.1 | .. | 15.4 | 15.7 | .. | 6.5 | 5.9 | .. | 2.7 | 1.6 | .. | 6.3 | 6.0 | .. | 36.2 | 33.7 | |
| 1980 . . . | 31.7 | 35.9 | .. | 16.1 | 16.5 | .. | 7.2 | 6.7 | .. | 2.7 | 1.5 | .. | 5.9 | 7.3 | .. | 36.4 | 32.1 | .. |
| 1981 . . . | 31.4 | 35.0 | .. | 16.1 | 16.3 | .. | 7.4 | 6.6 | .. | 2.7 | 1.3 | .. | 6.0 | 9.1 | .. | 36.4 | 31.8 | |
| 1982 . . . | 30.7 | 34.7 | .. | 15.7 | 15.9 | .. | 7.8 | 6.6 | .. | 2.6 | 1.3 | .. | 6.1 | 9.6 | | . | . | |

*Sources* As for table 3.5.1

[a] Rent, fuel and electricity only

[b] Savings, taxes etc

[c] Per capita savings of the total population.

[d] Including alcoholic beverages and tobacco products. Up to 1980, workers' families include manual and non-manual workers

[e] Fuel and electricity only

by retail price policies for this group of consumer goods. In almost all countries of the region, the share of expenditures on food products in total consumption tended to decrease. The exception is Bulgaria, where there was an increase in the retail prices of food products in the second part of 1979, but the subsequent trend was similar to that in other countries (table 3.5.9). The lowest shares of food in total family expenditures are found in *Czechoslovakia* and the *German Democratic Republic* (about 25 per cent in 1982). In *Bulgaria*, *Hungary* and the *Soviet Union*, the share of food amounts to 33–36 per cent. In *Poland*, the proportion is even higher (about 40 per cent). In *Romania* there is a noticeable difference between the share of food in the family expenditures of workers' as distinct from peasant families – some 47 per cent compared with 63 per cent, respectively, in 1981.

The share of expenditures for the maintenance of dwellings are also different as between countries. They have been fairly stable in Czechoslovakia, Hungary, Poland and Romania. In Bulgaria, the German Democratic Republic and the Soviet Union their share has, in contrast, tended to fall. The share of such expenditure by families in rural areas (i.e. peasant families) in most countries of the region are lower than by families in urban areas (i.e. families of workers and non-manual workers). The lowest share of dwellings maintenance in total family expenditures is found in the Soviet Union – about 2.0 per cent and it is also low in the German Democratic Republic (about 3.5 per cent) and Bulgaria (about 6.0 per cent). In Czechoslovakia, Hungary, Poland and Romania the housing maintenance share varies between 12.0 per cent in Czechoslovakia to 16.0 per cent in Hungary.

While consumption patterns of different social groups have in general been levelling out, consumption of some consumer goods varies from group to group. This arises partly from differences in the availability of these goods for use in households and, in the case of food products, by the different food requirements of manual and non-manual workers. Expenditures on food constitute the biggest single expenditure component of the population as a whole. However, as noted earlier, its share in total family expenditures generally tended to decline (table 3.5.10). Available data for the period 1970–1982 for the volume of consumption per capita of selected goods shows a slowdown in the volume of cereal products and potatoes consumed per capita and a considerable increase in the consumption of meat and meat products, fish and fish

TABLE 3.5.10

**Per capita consumption of selected goods**
*(In kilogrammes, except for eggs, in units)*

| | 1970 | 1975 | 1980 | 1981 | 1982 | 1970 | 1975 | 1980 | 1981 | 1982 | 1970 | 1975 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Bulgaria* | | | | | *Czechoslovakia* | | | | | *German Democratic Republic* | | | | |
| Meat and meat products | 43.7 | 60.6 | 64.9 | 70.9 | 73.1 | 71.9 | 81.1 | 85.6 | 86.6 | 81.0 | 66.1 | 77.8 | 89.5 | 90.7 | 91.0 |
| Fish and fish products | 5.2 | 5.9 | 6.5 | 6.8 | 7.2 | 5.2 | 5.8 | 5.4 | 5.0 | 5.2 | 7.9 | 8.5 | 7.4 | 7.4 | 7.4 |
| Milk and milk products | 161.0 | 198.0 | 234.0 | 239.0 | 250.0 | 196.0[a] | 210.0[a] | 228.0[a] | 235.0[a] | 239.0[a] | .. | .. | .. | .. | .. |
| *of which*: | | | | | | | | | | | | | | | |
| Butter | .. | .. | .. | .. | .. | 7.4 | 7.6 | 8.3 | 8.4 | .. | 11.2 | 10.3 | 10.9 | 10.9 | 10.6 |
| Cereal products | 174.0 | 162.0 | 160.0 | 159.0 | 159.0 | 113.0 | 108.0 | 107.0 | 109.0 | 111.0 | 97.3 | 94.8 | 94.2 | 95.0 | 97.1 |
| Potatoes | 25.9 | 23.1 | 26.6 | 30.3 | 30.5 | 103.4 | 95.8 | 76.1 | 79.5 | 88.0 | 153.5 | 142.1 | 142.7 | 140.1 | 144.9 |
| Vegetables | 118.0 | 127.0 | 125.0 | 135.0 | 147.0 | 76.3 | 73.7 | 65.6 | 66.2 | 69.0 | 84.8 | 90.0 | 93.8 | 93.1 | 95.6 |
| Sugar and sugar products | 32.9 | 32.5 | 34.7 | 35.1 | 35.0 | 37.7 | 38.0 | 38.0 | 36.9 | 41.0 | 34.4 | 36.8 | 40.6 | 40.8 | 44.0 |
| Vegetable fats and oils[b] | 12.5 | 14.1 | 14.8 | 14.9 | 15.0 | 5.8 | 6.7 | 7.3 | 7.3 | 6.9 | 2.2 | 2.0 | 1.6 | 1.6 | 1.8 |
| Eggs | 122.0 | 146.0 | 204.0 | 209.0 | 220.0 | 277.0 | 297.0 | 316.0 | 321.0 | 324.0 | 239.0 | 269.0 | 289.0 | 288.0 | 301.0 |
| | *Hungary* | | | | | *Poland* | | | | | *Romania* | | | | |
| Meat and meat products | 58.1 | 68.5 | 71.7 | 73.0 | 76.0 | 61.2 | 78.4 | 82.1 | 72.3 | 58.5 | 31.2 | 45.7 | 62.0 | .. | .. |
| Fish and fish products | 2.3 | 2.7 | 2.1 | 2.3 | .. | 6.3 | 7.2 | 8.1 | 7.3 | 6.0 | 4.7 | 4.7 | 5.9 | .. | .. |
| Milk and milk products | 110.6 | 127.6 | 166.0 | 171.0 | 175 | 413.0 | 432.0 | 451.0 | 444.0 | 403.0 | 110.7 | 132.6 | 180.0 | .. | .. |
| *of which*: | | | | | | | | | | | | | | | |
| Butter | 2.1 | 1.7 | 2.0 | 6.0 | 2 | 5.0 | 6.1 | 6.9 | 7.0 | 5.9 | .. | . | .. | .. | .. |
| Cereal products | 128.2 | 122.2 | 115.0 | 113.0 | 112.0 | 131.0 | 120.0 | 127.0 | 128.0 | 124.0 | . | .. | .. | .. | .. |
| Potatoes | 75.1 | 66.8 | 61.0 | 59.1 | 58.0 | 190.0 | 173.0 | 158.0 | 155.0 | 159.0 | .. | .. | .. | .. | .. |
| Vegetables | 83.2 | 85.2 | 79.6 | 77.4 | 75.0 | 111.0 | 109.0 | 101.0 | 118.0 | 107.0 | 86.7 | 112.6 | 140.0 | .. | .. |
| Sugar and sugar products[c] | 33.5 | 39.4 | 37.9 | 35.5 | 38.0 | 39.2 | 43.2 | 41.4 | 33.4 | 41.7 | 19.3 | 20.3 | 28.2 | .. | .. |
| Vegetables fats and oils | 1.9 | 2.9 | 4.2 | 4.4 | .. | 1.5 | 2.1 | 2.6 | 2.8 | 2.4 | 14.1 | 17.0 | 17.8 | .. | .. |
| Eggs | 247.0 | 274.0 | 317.0 | 314.0 | 315.0 | 186.0 | 209.0 | 223.0 | 227.0 | 200.0 | 142.0 | 214.0 | 270.0 | .. | .. |
| | *Soviet Union* | | | | | *Byelorussian SSR* | | | | | *Ukrainian SSR* | | | | |
| Meat and meat products | 48.0 | 57.0 | 58.0 | 57.0 | .. | 49.0 | 62.0 | 61.0 | 60.0 | 64.0 | 49.0 | 60.0 | 61.0 | 60.0 | 59.0 |
| Fish and fish products | 15.4 | 16.8 | 17.6 | 17.9 | 18.4 | 13.9 | 17.2 | 16.3 | 18.3 | 18.2 | 15.9 | 15.9 | 16.7 | 17.3 | 17.7 |
| Milk and milk products | 307.0 | 316.0 | 314.0 | 305.0 | 295.0 | 371.0 | 385.0 | 369.0 | 362.0 | 369.0 | 311.0 | 335.0 | 331.0 | 3.26 | 308.0 |
| *of which*: | | | | | | | | | | | | | | | |
| Butter | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cereal products | 149.0 | 141.0 | 138.0 | 138.0 | 137.0 | 144.0 | 141.0 | 140.0 | 140.0 | 141.0 | 155.0 | 151.0 | 146.0 | 1.46 | 142.0 |
| Potatoes | 130.0 | 120.0 | 109.0 | 105.0 | 110.0 | 245.0 | 215.0 | 200.0 | 206.0 | 200.0 | 156.0 | 143.0 | 133.0 | 1.40 | 141.0 |
| Vegetables | 82.0 | 89.0 | 97.0 | 98.0 | 101.0 | 70.0 | 75.0 | 77.0 | 79.0 | 80.0 | 103.0 | 118.0 | 115.0 | 1.12 | 123.0 |
| Sugar and sugar products | 38.8 | 40.9 | 44.4 | 43.9 | 44.5 | 35.1 | 39.5 | 43.3 | 43.8 | 44.0 | 41.4 | 45.4 | 51.8 | 49.2 | 51.8 |
| Vegetable fats and oils | 6.8 | 7.6 | 8.8 | 9.0 | 9.3 | 4.6 | 5.7 | 7.4 | 7.8 | 7.5 | 7.4 | 8.5 | 10.0 | 9.4 | 10.3 |
| Eggs | 159.0 | 216.0 | 239.0 | 245.0 | 249.0 | 170.0 | 260.0 | 294.0 | 299.0 | 307.0 | 156.0 | 210.0 | 239.0 | 247.0 | 253.0 |

*Sources*: As for table 3.5.1 and *CMEA Statistical Yearbook 1983*

[a] Excluding butter

[b] Including animal fats

[c] Sugar only

### TABLE 3.5.11

### Stocks of consumer durables per thousand inhabitants

(*Physical units*)

| | 1970 | 1975 | 1980 | 1981 | 1982 | 1970 | 1975 | 1980 | 1981 | 1982 | 1970 | 1975 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Bulgaria* | | | | | *Czechoslovakia* | | | | | *German Democratic Republic* | | | | |
| Refrigerators | 81 | 174 | 234 | 246 | 258 | 177 | 260 | 305 | 324 | 341 | 215 | 322 | 423 | 445 | 463 |
| Washing machines | 141 | 176 | 217 | 226 | 239 | 276 | 363 | 411 | 432 | 450 | 205 | 277 | 328 | 341 | 354 |
| Television sets | 120 | 197 | 232 | 241 | 255 | 234 | 305 | 372 | 377 | 384 | 276 | 310 | 408 | 422 | 434 |
| Radio sets | 176 | 226 | 271 | 278 | 281 | 444 | 564 | 604 | 613 | 628 | 351 | 366 | 383 | 386 | 385 |
| Motor cars | 17 | 46 | 88 | 94 | 100 | 57 | 99 | 139 | 148 | 153 | 60 | 100 | 148 | 156 | 164 |
| | *Hungary* | | | | | *Poland* | | | | | *Romania* | | | | |
| Refrigerators | 103 | 220 | 287 | 301 | 312 | 70 | 162 | 260 | 272 | 288 | 54 | 96 | 156 | 192 | .. |
| Washing machines | 179 | 228 | 297 | 305 | 308 | 185 | 257 | 307 | 315 | 328 | 46 | 68 | 102 | 155 | .. |
| Television sets | 171 | 226 | 258 | 262 | 265 | 137 | 240 | 301 | 314 | 326 | 82 | 145 | 210 | 256 | .. |
| Radio sets | 245 | 240 | 244[a] | .. | .. | 253 | 320 | 395 | 419 | 441 | 179 | 207 | 251 | 300 | .. |
| Motor cars | 23 | 55 | 95 | 103 | 110 | 15 | 19 | 45 | 50 | 54 | 6 | 14 | 29 | 44 | .. |
| | *Soviet Union* | | | | | *Byelorussian SSR* | | | | | *Ukrainian SSR* | | | | |
| Refrigerators | 89 | 178 | 252 | 262 | 268 | 76 | 170 | 238 | 249 | 257 | 82 | 170 | 250 | 263 | 269 |
| Washing machines | 141 | 189 | 205 | 205 | 205 | 109 | 147 | 157 | 152 | 148 | 137 | 187 | 203 | 200 | 196 |
| Television sets | 143 | 215 | 249 | 262 | 274 | 122 | 188 | 216 | 228 | 240 | 151 | 224 | 254 | 254 | 274 |
| Radio sets | 199 | 230 | 250 | 261 | 271 | 154 | 196 | 221 | 222 | 236 | 172 | 198 | 224 | 225 | 247 |

*Sources:* As for table 3.5.1 and *CMEA Statistical Yearbook 1983*

[a] 1979.

products, milk and milk products, eggs and other goods with a higher nutritional value.

In 1983, the consumption of food in physical terms again increased. The dietary structure of the population in all countries of the region is improving. In most countries, per capita consumption of meat, meat products, eggs and vegetables increased. As far as meat and meat products are concerned, the biggest increases were in Hungary and Bulgaria. In the Soviet Union as a whole, consumption of these items remained at the 1981 level, and there was a slight decrease in Czechoslovakia.

*Stocks of consumer durables per thousand inhabitants* increased in the centrally planned economies of eastern Europe and the Soviet Union in recent years (table 3.5.11). This reflected the further industrial development of the national economies under review, in particular of light industry, and also the expansion of foreign trade. During the period 1970–1982, the biggest relative change was recorded in the annual purchases of motor cars. The lowest increases were registered for radio sets. Demand for refrigerators and TV sets, especially colour, remained stable at a high level.

## 3.6 CHANGES IN MANAGEMENT AND PLANNING OF AGRICULTURE DURING THE 1970s

This section briefly reviews the principal changes in the management and planning of agriculture during the 1970s against the background of such developments between 1950 and 1970. Accordingly some basic characteristics of these changes over the 1950–1970 period are described in the first sub-section, and the main changes in agricultural management and planning in the 1970s are analysed in sub-section (ii). Stress is laid on general trends in agricultural management activities, the organizational structure of production and management, and planning methods and instruments, including the use of economic regulators. Reference is made to differences in approach between individual countries. In sub-section (iii), main outcomes with regard to changes in agricultural output and factors of production, as reflected in a range of economic indicators, are summarized.

### (i) Basic characteristics of management and planning in agriculture during the 1950s and 1960s

When the Second World War was over, the main objective of agricultural policy in east European countries and the Soviet Union was *to bring back agricultural economic potential to its pre-war level* – a task complicated by the emphasis placed on the industrialization of the predominantly agrarian countries of the region. The problem was to increase agricultural output, to narrow the gap between social productivity in industry and agriculture and to place agriculture itself on a modern basis. Development of medium and large-scale farming was considered essential for attaining these aims.[245]

The chosen political option – to develop socialized types of agricultural production – was determined by the principles of safeguarding the social role of farmers, of improving their living conditions to levels comparable with those of non-agricultural workers and of implementing the desired development of agriculture with the support of farmers themselves. Taking into consideration the question of ownership and the impossibility of "expropriating" small farms either by administrative measures or by the spontaneous effects of economic forces, agricultural policies were oriented towards the establishment of *collective farms*, which currently account for the bigger part of agricultural potential in most countries.[246]

The management and planning of agriculture varied in detail from one country to another during the 1950s. Nevertheless, there were some common features, such as:

(*a*) A large number of obligatory physical plan indicators, which also contained input quotas, the cultivation structure by kind of crops and compulsory delivery quotas;

(*b*) a dual price system for compulsory deliveries and for free sales, the latter usually accounting for a low percentage share of output due to a high compulsory delivery obligation paid for at a lower price;

(*c*) a low level of fixed asset ownership by agricultural enterprises themselves, and the concentration of the scarce stock of agricultural machinery and equipment, above all tractors and harvesters, in state-run machine tractor stations (MTS).

In the course of the 1950s, state management in the form of directives and based on quota systems was supplemented in most countries by a degree of *economic regulation* designed to make collective farm membership attractive to the peasants. Compulsory delivery quotas were set at lower levels for co-operative enterprises as compared with those for private farms. Special fiscal concessions and credit facilities, lower charges for MTS services and easier access to inputs (especially fertilizers) also favoured the process of socialization of agriculture.

The picture changed fast during the next decade. The growing economic potential in the countries concerned allowed agricultural investment to increase its share in total investment, and agriculture was made eligible for state credits. Farms became the owners of their own capital stocks of fixed assets. The growth of agricultural output allowed reductions in compulsory delivery quotas, adding an element of flexibility to cropping patterns, and in general to the development of production based on inputs produced by farms themselves. The abolition of low-priced compulsory deliveries was accompanied by overall increases in state contract prices for farm produce. The financial position of enterprises was also improved by the adjustment of input/output price relatives as well as those between individual products.

A characteristic of collective and state farm organization in the 1950s and 1960s, in particular, was precisely the aspect of *detailed specification of main farm operations*. Cropping patterns, composition and size of livestock herds, inputs (such as fertilizer) and even the timing of the main field operations were subject to detailed targets handed down from above. These features of agricultural planning and management gave rise to a rather rigid organizational structure. On the one hand, it ensured at least the minimum of output in a centrally planned and balanced physical production structure; on the other hand, it was incapable of adjusting quickly to changing weather or other conditions. Some of these difficulties were compounded by the mutually independent status of agricultural enterprises; since the supply of inputs and the distribution of output was planned to involve the farm and state supply/procurement agencies only, little scope was left to compensate unplanned imbalances by transaction between farms. In the special case of Poland, private farming practiced on a relatively small scale was hindered throughout the period by the lack of small-scale machinery, restrictions on the supply and price of inputs and on the size of farms, and legal obstacles on the consolidation of private farms into larger units (apart from their sale to socialized units).

The 1960s can be characterized as a *stabilizing period in basic agricultural organization*. Multi-branch collective or state enterprises farmed most of the agricultural land, and accounted for most agricultural employment and output. Their increasing size favoured the division of labour within farms, a more adequate cost-accounting system and new approaches to management and planning. Relations within agriculture, and between agriculture and other sectors of the national economies, were enlarged. The first steps in farm specialization and concentration of production boosted the process of co-operation between farms and with enterprises in the agricultural supply industries, and also with those in branches processing agricultural goods. The number and types of enterprises managed jointly by farms for specific tasks (for example land improvement and construction) increased. All these changes were reflected in the system of state management and planning of agriculture. The increase of agricultural output, its closer dependence on inputs of non-agricultural origin and the general trend of specialization and concentration within primary agricultural production and ancillary services called for better co-ordination at all levels of management. The Ministries of Agriculture, which planned, distributed and controlled agricultural input and output (often including food processing) on the national scale, were also responsible for financial and fiscal regulation (taxes, prices, credits and economic regulation in the widest sense). The increasing volume of co-operative relations and joint decision-making made the over-detailed administrative approach obsolete and it was therefore progressively replaced by economic mechanisms (price adjustments, performance norms, and expansion of contractual relations between enterprises) which left room for greater management initiative at lower levels. Operative management of the farms, however, moved step-by-step to branch associations or enterprises – working on the basis of economic accountancy – operating jointly with the special agricultural departments of local authorities.

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[245] In the Soviet Union the major transformation of the structure of land ownership – from individual to collective or state farming – had been completed by the late 1930s.

[246] Exceptions are the Soviet Union, where state ownership prevails, and Poland where private ownership still predominates.

During the whole post-war period until 1970, the *size of agriculture* in relation to other activities in the economies of eastern Europe and the Soviet Union changed considerably. In spite of absolute output increases, the *share of agriculture* in total net material product fell, especially in the less industrialized countries and in the Soviet Union. Efforts to overcome industrial backwardness favoured the flow of labour from agriculture to industry. However, towards the end of this period, farm inputs other than labour increased – in some cases more than doubling – and interdependence between agriculture and the rest of the national economy rose considerably further (tables 3.6.1–3.6.4).

### (ii) Main changes in agricultural policies in the 1970s and their reflection in management and planning

The further development of agriculture envisaged in all countries' five-year plans 1971–1975 reflected a further strengthening of the trend toward *specialization and concentration* mentioned above. Indeed, continued developments along these lines were seen as preconditions for an adequate response to the changed availability of production factors. Due to industrialization and urbanization the available land stock in most countries decreased or stagnated. Increased output per hectare of land was the only way forward. The possibilities for boosting agricultural labour productivity by further large-scale economies of labour within agriculture was much less than in preceding periods, and substitution of capital for labour was, in any case, increasingly costly. Thus, the *intensification of agricultural production* was to be accomplished primarily through the promotion of specialization, concentration, mechanization and the use of industrial-type technologies, as well as through the increasing provision of farm inputs (mineral fertilizer, herbicides, pesticides, etc.). These objectives could not be realized without changes in management methods and instruments.

TABLE 3.6.1

**Share of agriculture and forestry in total net material product**
(*Percentages*)

| | 1950 | 1960 | 1970 | 1980 |
|---|---|---|---|---|
| Bulgaria . . . . . . | 42.5 | 32.3 | 22.8 | 16.7 |
| Czechoslovakia . . . . | 16.7 | 15.2 | 10.5 | 7.3 |
| German Democratic Republic . . . . . | 30.8 | 18.0 | 12.8 | 8.5 |
| Hungary[a] . . . . . . | 47.7 | 29.8 | 21.7 | 15.8 |
| Poland . . . . . . . | 51.7 | 25.8 | 17.3 | 15.3 |
| Romania . . . . . . | 27.6 | 34.9 | 19.1 | 15.2 |
| Soviet Union . . . . . | .. | 41.3 | 24.4 | 11.7 |

*Sources. CMEA Statistical Yearbook 1981*, p. 44. *CMEA Statistical Yearbook 1979* (30th anniversary of CMEA), p.61.
[a] Agriculture only.

TABLE 3.6.2

**Share of agricultural employment[a] in total employment**
(*Percentages*)

| | 1950 | 1960 | 1970 | 1980 |
|---|---|---|---|---|
| Bulgaria . . . . . . | 79.5 | 55.5 | 35.8 | 24.5 |
| Czechoslovakia . . . . | 38.6 | 26.0 | 18.5 | 14.2 |
| German Democratic Republic . . . . . | 27.3 | 17.2 | 13.0 | 10.5 |
| Hungary[b] . . . . . . | 52.0 | 38.9 | 26.4 | 22.0 |
| Poland . . . . . . . | 54.0 | 44.1 | 34.6 | 26.3 |
| Romania . . . . . . | 74.3 | 65.6 | 49.3 | 29.8 |
| Soviet Union . . . . . | 47.6 | 38.8 | 25.4 | 20.2 |

*Sources. CMEA Statistical Yearbook 1981*, pp. 403–405. *CMEA Statistical Yearbook 1979* (30th anniversary of CMEA) p. 331.
[a] Including forestry
[b] Including water management

Central state management of agriculture concentrated increasingly on the development of agriculture as an integrated part of the national economies. This involved establishing optimum proportions within sub-sectors of agricultural production and between them and branches which deliver inputs of non-agricultural origin and process agricultural output. This orientation of activities shifted more towards the formation of national *agro-industrial complexes* in order to better balance resource and output allocation at national level. Conceptual work directed towards the medium- and long-term development of agriculture gained ground – notably agricultural science and technology and their application in production. These changes in central state management decreased its ability for decision-making in operative management. Therefore, detailed management tasks were more and more transferred to medium-level branch bodies, branch departments of territorial administrative units and to the farms themselves. The process of central management shifted more towards the preparatory phase of planning. The framework of legal regulations and economic mechanisms expanded;[247] management at lower levels was accorded greater freedom and flexibility within centrally fixed limitations. Their main task thus involved co-ordination between enterprises to ensure the consistency of plans.

Accompanying the reorientation of the role of state planning, some changes in the *organization of agricultural production* took place during the 1970s. Although land

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[247] The introduction of the term "system of management, planning and economic stimulation" in economic literature reflects this movement.

TABLE 3.6.3

**Share of agriculture in total investments and investments in material sphere**
(*Percentages*)

| | 1961-1970 | | 1971-1980 | | 1971-1980:1961-1970 | |
|---|---|---|---|---|---|---|
| | Total | Material sphere | Total | Material sphere | Total | Material sphere |
| Bulgaria | 18.80 | 23.00 | 14.35 | 17.40 | 76.33 | 75.65 |
| Czechoslovakia | 13.95 | 17.00 | 11.15 | 15.80 | 79.93 | 92.94 |
| German Democratic Republic | 13.45 | 16.60 | 11.40 | 14.10 | 84.76 | 84.94 |
| Hungary | 15.60 | 23.70 | 15.25 | 19.30 | 97.76 | 81.43 |
| Poland | 16.70 | 22.50 | 14.15 | 20.00 | 84.73 | 88.89 |
| Romania | 17.40 | 21.50 | 14.45 | 17.10 | 83.05 | 79.53 |
| Soviet Union | 16.05 | 23.10 | 20.00 | 28.80 | 124.61 | 124.68 |

*Source:* CMEA statistical yearbooks.

TABLE 3.6.4

**Share of agriculture in total fixed assets and fixed assets in material sphere**
(*Percentages*)

| | 1950 | | 1960 | | 1970 | | 1980 | |
|---|---|---|---|---|---|---|---|---|
| | Total | Material sphere | Total | Material sphere | Total | Material sphere | Total | Material sphere |
| Bulgaria | 12.7[a] | 27.9[a] | 13.0 | 24.9 | 13.2 | 20.5 | 11.1 | 16.3 |
| Czechoslovakia | 6.2 | 10.2 | 7.0 | 11.0 | 7.9 | 11.9 | 8.7 | 13.1 |
| German Dem. Rep. | 5.7[b] | 12.1[b] | 6.2 | 12.2 | 7.9 | 13.3 | 8.4 | 12.4 |
| Hungary | 7.3 | 15.0 | 7.7 | 14.3 | 10.5 | 17.8 | 11.9 | 18.9 |
| Poland | 19.9 | 45.4 | 17.9 | 36.7 | 16.5 | 30.2 | 16.1 | 25.6 |
| Romania | 19.0 | 34.9 | 14.9 | 25.6 | 12.6 | 18.4 | 10.7 | 14.1 |
| Soviet Union | 15.4 | 28.0 | 13.8 | 24.2 | 12.3 | 19.9 | 13.6 | 20.6 |

*Source: CMEA Statistical Yearbook 1981*, p. 50; *CMEA Statistical Yearbook 1979* (30th anniversary of CMEA), p. 65.
[a] 1952.
[b] 1955

ownership, and collective and state farms' share of agricultural land, remained relatively stable in most countries, the total number of farms fell sharply while their average size increased considerably (table 3.6.5). Although not uniform between countries, the process of specialization and concentration accelerated and broadened relations between co-operative and state farms themselves. New types of enterprises emerged and their numbers expanded, notably various types of specialized inter-farm units often run by a number of existing farms jointly as already noted, and as described below.

In fact, *organizational changes* followed two basic directions. The first was an evolution away from traditional mixed arable and livestock production, accompanied by a further splitting up of operations on the lines of production technologies. This resulted in:

- a reduced assortment of main products per farm;
- the separation of farm activities one from the other (i.e. livestock from arable farming) and the establishment of inter-farm units for individual products or processes (i.e. for pig rearing, product processing or packing);
- the emergence of joint (sometimes legally independent) units for productive services, connected with the introduction of industrial-type technologies (mixed fodder factories, drying factories, pelletization units, factories for treatment of organic fertilizers, chemical station services, enterprises for maintenance and repairs of agricultural machinery etc.)

These were an extension of the joint inter-farm units for construction and land improvement which had already emerged in the collective sector during the 1950s and 1960s.

Though statistical evidence of this process is not always systematic and comparable between countries, the changes described were similar and fairly marked in all countries concerned.

The second basic direction was the spread of *vertical co-operation* between producers of primary agricultural products and enterprises processing and manufacturing these products for consumption. This increasingly called for *agro-industrial integration* based on the different stages of technology in the process of foodstuff production. This was sometimes expanded to trading enterprises – the final link in the chain of co-operation.

The far from uniform developments in different countries nonetheless usually included the following common elements:

- collective and state farms specialized in output of selected products;
- horizontally or vertically integrated inter-enterprise units were set up, sometimes legally independent and/or contractually linked together; they are engaged in primary agricultural production or in ancillary activities;
- industrial-type producing units in the purest sense were also set up, especially in animal production; their independence of the soil as a production factor favours the organization of mechanized factory-type production up to the final processing stage.

The quantitative growth of output and the qualitative nature of the above changes influenced the *structure of management systems*, and new management bodies emerged within and outside the existing structure. Two directions characterized

TABLE 3.6.5

**Agricultural enterprises (state and collective)**
(*Number and average size in hectares per farm*)

| | State farms | | Collective farms | |
|---|---|---|---|---|
| | Number | Size | Number | Size |
| *Bulgaria* | | | | |
| 1960 | 67 | 5 627 | 932 | 4 865 |
| 1965 | 104 | 5 337 | 920 | 4 745 |
| 1970 | 156 | 6 000 | 744 | 5 496 |
| 1975 | 164 | 32 780 | — | — |
| 1980 | 345 | 16 186 | — | — |
| *Czechoslovakia* | | | | |
| 1960 | 365 | 3 104 | 10 816 | 421 |
| 1965 | 329 | 4 453 | 6 704 | 593 |
| 1970 | 336 | 4 265 | 6 270 | 631 |
| 1975 | 250 | 5 684 | 2 736 | 1 548 |
| 1980 | 200 | 6800 | 1 722 | 2 485 |
| *German Democratic Republic* | | | | |
| 1960 | 669 | 592 | 19 648 | 238 |
| 1965 | 572 | 743 | 15 718 | 307 |
| 1970 | 511 | 867 | 10 029 | 490 |
| 1975 | 463 | 1 024 | 6 610 | 781 |
| 1980 | 469 | 977 | 4 897 | 1 056 |
| *Hungary* | | | | |
| 1960 | 333 | 2 598 | 4 724 | 734 |
| 1965 | 214 | 4 252 | 3 750 | 1 241 |
| 1970 | 180 | 4 906 | 2 805 | 1 658 |
| 1975 | 147 | 5 789 | 1 834 | 2 583 |
| 1980 | 131 | 6 427 | 1 457 | 3 248 |
| *Poland* | | | | |
| 1960 | 5 734 | 398 | 1 978 | 117 |
| 1965 | 6 515 | 385 | 1 251 | 161 |
| 1970 | 5 356 | 511 | 1 106 | 212 |
| 1975 | 3 660 | 819 | 1 216 | 257 |
| 1980 | 1 811 | 1 907 | 2 398 | 308 |
| *Romania* | | | | |
| 1960 | 560 | 3 071 | 4 887 | 1 495 |
| 1965 | 721 | 2 881 | 4 680 | 1 728 |
| 1970 | 370 | 5 646 | 4 626 | 1 746 |
| 1975 | 391 | 5 263 | 4 649 | 1 737 |
| 1980 | 407 | 5 002 | 4 643 | 1 753 |
| *Soviet Union* | | | | |
| 1960 | 7 375 | 26 470 | 44 944 | 6 463 |
| 1965 | 11 681 | 24 664 | 36 917 | 6 302 |
| 1970 | 14 994 | 20 529 | 33 561 | 6 094 |
| 1975 | 18 064 | 18 862 | 28 953 | 6 377 |
| 1980 | 21 057 | 17 256 | 26 332 | 6 497 |

*Source. CMEA Statistical Yearbook 1981*, pp. 194 195

these changes. The first, resulting from the trend towards specialization, stimulated product and/or process-oriented management, with the task of ensuring the widespread use of new production technologies. The second emerged as response to the growing complexity of co-operation, especially between specialized production units, and also to the integration of management on a territorial basis. The extent and timing of these changes were not the same in different countries. Examples are: creation of agro-industrial complexes in *Bulgaria*, followed, at the middle management level, by the setting up of agro-industrial unions headed by the National Agro-Industrial Union (this replaced the Ministry of Agriculture in 1979); in *Czechoslovakia* and the *German Democratic Republic*, sub-branch management at middle levels was enlarged by managerial associations and co-operation councils which played an increasing role in the production sphere; in *Hungary*, "production systems" with a so-called "gestor" (managing enterprise) on top emerged; in *Poland*, the management structure changed following a reorganization of territorial administration and extension of the self-management activities of agricultural circles within predominantly privately-organized agriculture; in *Romania*, the structure of management was relatively stable for a long period, but it changed in 1979 with the establishment of the "agro-industrial complexes". Changes in the above- mentioned countries proceeded always from the principle of remaining within the current three-tier system in state administration and management (republic – province – district) or in branch management (ministry – association -enterprise).

The picture in the *Soviet Union* is however rather different; the size of the country imposes a greater number of administrative levels – at least four: all-union, republican, province/district (kray/Oblast), and commune (rayon). It was also found necessary, moreover, to react to the increasing specialization of agricultural production by administering product or process-oriented sub-branches in a uniform way. These problems were paralleled by the need to control the rapidly growing level of inputs of non-agricultural origin. The solution retained was the creation of new branch management bodies which considerably enlarged the management structure.[248]

The need to stress branch-oriented vertical management often conflicted with possibilities for horizontal co-ordination at all levels, which is of course especially important in agriculture. In particular, investment and funds allocated for current use on a branch basis resulted in disproportions and hampered efficient territorial co-ordination at lower management levels. Recognizing this problem, experiments were initiated in some republics of the Soviet Union during the 1970s. Agro-industrial associations at the *kray* or *oblast* level centralized branch-channeled plan targets, general guidelines and financial resources; they resulted in some improvements in the efficiency of management.[249]

With regard to planning, the attention paid to intensification favoured a move from administrative methods to the utilization of *economic criteria* in management and planning. The necessary preconditions – financial autonomy ("*khozraschet*"), adequate fixed capital and other financial resources on farms, enterprises, associations, etc. – were created in most countries after 1965. The role of economic (value-based) regulatary mechanisms was led by the growing importance of price policy; there was also an expansion in the role of credits, tax systems and target-oriented subsidies. Various contractual systems became the main basis for preparing and implementing plans and for determining relationships between horizontally and vertically-linked partners. The expanded role of prices, credits, taxes, subsidies, etc. (including measures to permit voluntary price agreements within limits fixed by the state and legally fixed minimum personal incomes) changed the function of physical indicators and balances in the planning process.[250]

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[248] Management functions on agricultural problems in the Soviet Union were directly or indirectly carried out by the following organs of state at the end of the 1970s: Ministry of Agriculture, Ministry of Procurements, Ministry of Rural Construction, Ministry of Melioration and Water Economy, Ministry of Food Industry, Ministry of Meat and Dairy Product Industry, Ministry of Fruit and Vegetable Industry (since 1980), State Committee for Supply of Production Equipment for Agriculture, Ministry of Tractors and Farm Machinery, Ministry of Machinery for Fodder Production and Animal Production, Ministry of Fertilizer Production

Under the supervision of the Ministry of Agriculture alone 15 ministries are working in republics, 128 administrative bodies at the levels of the kray and oblast. There are also more than 3,000 regional (rayon) bodies, around 500 sovkhoz trusts and a similar number of associations. For more details see B.D. Klyukin: "The improvement of activities of branch management organs in agriculture", in *State Management of Agriculture in the German Democratic Republic and the Soviet Union*, Staatsverlag der DDR, Berlin 1980 (in German)

[249] W.A Martynov: "Agricultural policy of the USSR in the 1980s *Osteuropa-Wirtschaft*, Vol 2, 1983, No. 2, p.155

The main components of the *system of economic levers and stimuli*, although not relied on to the same extent in all countries, can be summarised as follows:

*Taxes*: in general, taxes are used to offset differences in production conditions in order to stimulate the growth of production in all farms to the same degree. Thus, farms are differentiated according to the soil conditions in crop production, and according to other fixed assets in the case of specialized animal farms. Taxes on profits may be gross or net income based. During the 1950s and 1960s, taxes were used to promote socialized forms of production, while the promotion of specialization gained ground in the 1970s.

*Direct subsidies and allowances*: these are reserved, in the main, for such important, and particularly costly, items as land reclamation (most land improvement is state-financed) and also to encourage the application of research findings. The payment of allowances for low-priced industrial capital equipment for use by agricultural enterprises is also widespread; a proportion of the higher industrial sales prices is refunded by the state to industry.

*Procurement or purchase prices*: as already noted, the dual price system involving low prices for compulsory deliveries and higher prices for voluntary sales in force during the 1950s was replaced by higher and unified procurement price scales in the 1960s. These are often supplemented by bonuses paid for the quality and timeliness of deliveries, etc. Price policy is a central feature of economic measures to stimulate the growth of production and changes in the structure of output, to improve the financial position of farms and hence stimulate and improve supplies for social and individual consumption (table 3.6.6).

TABLE 3.6.6

**Changes in state procurement prices in agriculture of selected countries**
*(1965 = 100)*

| | Czechoslovakia | German Democratic Republic | Hungary | Soviet Union |
|---|---|---|---|---|
| 1970 | | | | |
| Total . . . | 124.1 | 115.9 | 132.8 | 127.4 |
| Crop . . . | 129.2 | 107.0 | 118.8 | 111.2 |
| Animal . . | 123.8 | 118.5 | 144.5 | 139.1 |
| 1975 | | | | |
| Total . . . | 128.5 | 122.8 | 153.3 | 138.0 |
| Crop . . . | 138.0 | 110.9 | 138.5 | 124.7 |
| Animal . . | 126.9 | 126.3 | 166.6 | 147.7 |
| 1978 | | | | |
| Total . . . | 136.8 | 124.8 | 173.0 | 145.4 |
| Crop . . . | 156.3 | 117.0 | 157.2 | 125.6 |
| Animal . . | 131.6 | 127.0 | 187.6 | 159.7 |
| 1980 | | | | |
| Total . . . | 148.1 | 124.8 | 190.7 | . . |
| Crop . . . | 158.3 | 116.8 | 166.3 | . . |
| Animal . . | 147.6 | 127.1 | 213.0 | . . |

*Source* National statistical yearbooks

*Credits*: these are provided to agriculture by state banks and may be of a short-term or long-term character. The volume of credit increased considerably during the 1970s, mainly because of the increasing cost of inputs. In the RSFSR for example, 62.8 per cent of collective farms' working capital in 1970 was provided from the farms' own funds, and 16 per cent from credits. By 1977, the share of farms' own funds in the same total fell to 26.1 per cent while credits covered 61.7 per cent.[251]

Whereas originally the role of these economic levers had been confined to providing a basis for determining obligatory quotas for inputs, output trends and compulsory deliveries, they have now become instruments for calculating contractual relations in co-operative transactions, and to promote the development of particular branch and territorial aspects of agricultural production (distribution of the labour force, vocational and educational facilities, the development of the technical and social infrastructure etc.). This was the logical basis for the reduction in the number of obligatory plan targets submitted by supervisory bodies, mentioned earlier, in most countries. Nevertheless, at the level of the individual farm plan objectives in most countries still include:

- state procurement of the most important products (in physical terms);
- state investment volumes (in value);[252]
- deliveries of agricultural machinery (in physical terms);
- budget obligations or allocations for current operations;
- rules governing the extension of long-term (investment) and short-term credits

However, it should be noted that in *Hungary* and *Poland*, in contrast to other countries of the region, no obligatory plan tasks are given to farms. Annual agricultural development plans are elaborated within the structure of territorial administrative units which have no direct link with enterprise planning, as is the case in Bulgaria, Czechoslovakia, the German Democratic Republic, Romania and the Soviet Union. The two former countries now use a set of general economic measures to influence agricultural enterprises and to stimulate the agricultural output target by type of product.

Thus the 1970s saw big efforts to implement improvements in agricultural management and planning and to give managers and workers at the enterprise level greater freedom to exercise initiative in response to their enterprises' real possibilities. The abolition of detailed input, cropping and related targets at the farm level, the reduction or abolishing of compulsory deliveries to the state, supplemented by improvements in farm prices and hence the amounts available for wage payments and investment were all important steps in this direction. However, agricultural enterprises remain subject to constraints set in the main policy guidelines which often have the status of law. This may involve departures which, although desirable on a country-wide basis, may not always be ideally suited for individual farms. Accordingly, all countries undertake efforts to combine the central planning of basic questions (as determined by their national interests) with increasing responsibility and flexibility in operative management, planning and economic stimulation at the level of production units.[253] That includes measures to raise the interdependence between pay and performance at the most basic level of activity.[254] The general trend is to increase the quality of intra-farm economic accountancy and to eliminate hours worked as the determining criterion for pay by replacing it with the final results of output.

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[250] State planning in socialist countries, especially in the case of agriculture, has always been characterized by the use of both physical- and value-related performance indicators of a directive – or often, more recently, of an indicative – character, in conjunction with "pure" economic (financial) instruments. Preferences in the use of the former or the latter in different periods can therefore be interpreted as a manifestation of the search for the most suitable approach under prevailing economic and social conditions.

[251] For more details see *Voprosy ekonomiki*, 1979, No. 3, p.52

[252] Amount of equipment and construction balanced in state balances, independent of financial sources.

[253] Optimization of individual, collective and social interests is a permanent preoccupation of economic research in the theory and practice of socialist planning. Frequent changes of producer prices, taxes on land, incomes and profits indicate the difficulties encountered in finding solutions which are adequate for the prevailing economic and social conditions.

The trends described above also influenced *private farming*.[255] Originally the main source of foodstuffs of the rural population, output from private plots taken to market now fills gaps not met by large-scale state and collective farm production and it contributes substantially to money incomes of farmers and smallholders. Hungary has systematically encouraged this form of production since the economic reform in 1968: with socialized agriculture increasingly oriented towards large-scale grain production, the private agricultural activities of farmers and smallholders are devoted mainly to livestock production based on deliveries of feed by farms in return for livestock products. In other countries, previous attitudes did not change until 1976–1980. However, all countries now stress the mobilization of reserves by the encouragement of all categories of producer – farm workers, urban workers, their families as well as pensioners – on small plots in free time. Thus, credits and price policy now favour private production of pigmeat, poultrymeat and eggs, rabbits, honey, vegetable and fruits. The picture is not uniform. While private farming accounts for the highest share of output in Hungary and Poland, it is still low in the German Democratic Republic and Czechoslovakia. In the Soviet Union the production of household plots and part-time small scale activities is involved in the process of specialization, which resulted, by 1980, in the fact that 25 per cent of collective farms which formally owned no pigs nonetheless made available feed to their members who in return sold back animals for marketing by the collective farms.[256] Summarizing, it can be said that private auxiliary farming will be further integrated into agricultural production in eastern Europe and the Soviet Union. Its share in total production will continue, as in the past, to decrease but the absolute volume will grow under the impact of recent measures to encourage such activities.

### (iii) Main outcomes of changes in management and planning

There is no doubt that substantial changes in the role and physical profile of the agricultural sector have taken place since 1970 (tables 3.6.7–3.6.8). Many of them are direct results of policies which were facilitated or implemented by means of the new mechanisms of agricultural management and planning described above. Big declines in the *agricultural labour* force in all countries were mainly due to demand for extra labour by non-agricultural sectors; but the rise in the share of skilled and other qualified staff at all levels was very much a consequence of the efforts made to expand the vocational training and higher educational base of rural workers. Similarly the rise in agricultural living standards, and the substantial closing of the gap relative to certain workers, resulted from a wide variety of policies ranging from direct wage legislation to the raising of

TABLE 3.6.7

**Structure of the national agro-industrial complexes by gross output and employment**

A = Supplying industries; B = Agriculture;
C = Processing industries and services
(*Percentage share*)

| | Gross output | | | Employment | | |
|---|---|---|---|---|---|---|
| | A | B | C | A | B | C |
| Bulgaria | | | | | | |
| 1965 . . . . | 2 | 63 | 35 | 1 | 86 | 13 |
| 1975 . . . . | 6 | 43 | 51 | 4 | 78 | 18 |
| Czechoslovakia | | | | | | |
| 1965 . . . . | 10 | 40 | 50 | 6 | 69 | 25 |
| 1975 . . . . | 16 | 32 | 52 | 11 | 66 | 23 |
| German Democratic Republic | | | | | | |
| 1965 . . . . | 13 | 39 | 48 | 8 | 58 | 34 |
| 1975 . . . . | 15 | 37 | 48 | 14 | 47 | 39 |
| Hungary | | | | | | |
| 1965 . . . . | 7 | 53 | 35 | 3 | 82 | 15 |
| 1975 . . . . | 20 | 41 | 39 | 9 | 70 | 21 |
| Poland | | | | | | |
| 1965 . . . . | 6 | 54 | 40 | 2 | 88 | 10 |
| 1975 . . . . | 16 | 43 | 52 | 4 | 81 | 15 |
| Romania | | | | | | |
| 1965 . . . . | 5 | 70 | 25 | 1 | 92 | 7 |
| 1975 . . . . | .. | .. | .. | .. | .. | .. |
| Soviet Union | | | | | | |
| 1965 . . . . | 6 | 58 | 36 | 3 | 82 | 15 |
| 1975 . . . . | 16 | 41 | 43 | 11 | 66 | 23 |

*Sources*: J. Koralka, "Agriculture in the modern world", *Hospodářské noviny*, No. 9, 1967, p. 9; *Voprosy ekonomiki*, No. 7, 1980, p. 104 and No. 2, 1975, p. 84.

TABLE 3.6.8

**Utilization of agricultural products**
(*Percentages: total = 100*)

| Country and year | Used in agriculture (as seed and feed) | Processed in non-agricultural sectors | Consumed directly by the population | Other uses (exports, stocks, etc.) |
|---|---|---|---|---|
| *Czechoslovakia* | | | | |
| 1967 . . . | 33.2 | 46.2 | 14.0 | 6.6 |
| 1973 . . . | 28.6 | 46.6 | 15.0 | 9.8 |
| *German Democratic Republic* | | | | |
| 1978 . . . | 12.7 | 70.2 | 17.1 | — |
| *Hungary* | | | | |
| 1970 . . . | 24.9 | 32.9 | 23.2 | 19.0 |
| 1972 . . . | 24.1 | 32.9 | 19.8 | 23.2 |
| *Soviet Union* | | | | |
| 1959 . . . | 23.1 | 39.6 | 33.0 | 4.3 |
| 1966 . . . | 20.7 | 43.9 | 25.7 | 9.7 |
| 1972 . . . | 20.3 | 52.4 | 24.7 | 2.6 |

*Sources* National statistics, for the Soviet Union, M Edelman "Methodological problems of defining a national-economic agro-industrial complex", in *Voprosy ekonomiki*, No 4, 1975, p 51, for the German Democratic Republic, Autorenkollektiv, *Die Landwirtschaft der DDR* (The Agriculture of the German Democratic Republic), Dietz Verlag, Berlin, 1980, p 25

*Note* Data are derived from input-output tables of years shown agricultural product prices, increased expenditures on output- and income-creating projects and on social infrastructure. The former also led to considerable improvements in the *structure of the capital stock* and in the availability of current *production inputs* (notably agro-chemicals and electric power) and also the creation of new branches of industrialized production, such as intensive poultry, egg and pig meat output, based on high technology (tables 3.6.9–3.6.12).

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[254] Examples are: the reduction in size of large agro-industrial complexes in Bulgaria in the late 1970s accompanied by delegation of responsibility for funds, inputs and output to brigades and work-teams without detailed prescriptions; the development of contractual relations between farm departments in the German Democratic Republic and the experience of co-operatives with regard to the fattening of animals on a contractual basis by private farmers – classed as a part of co-operative output in Hungary; experiments in the Soviet Union with a system under which small groups of workers are given responsibility for all stages of a crop from sowing to harvest on a given piece of land without detailed norms (*beznaryadnoe zveno*) have also been reported. The number of such teams working with collective performance contracts was 30,000 in 1980

[255] The term "private farming" is used here to characterise individual agricultural production of collective and state farm workers on privately worked land, together with the mostly free-time activities of smallholders in crop production and animal breeding and fattening in both rural and urban regions. There is no uniform definition throughout the countries. Systematic information is scarce; the position and the importance of small-scale individual farming within the framework of socialized large-scale agricultural production has not been the subject of scientific research in many countries for a long time. This situation is now changing.

[256] For more details see *Voprosy ekonomiki*, 1981, no. 5, pp. 66–74

Nevertheless, not only did the decline in the labour force speed up slightly during the 1970s, but the rise in the provision of *investment and current inputs* decelerated. Even the *land* area, which grew slightly during the 1950s and 1960s (and by substantially more in the Soviet Union) remained constant or fell slightly in the 1970s. While continuing efforts to encourage production brought about substantial rises in output per employee and per hectare in the 1970s – and in the latter case by slightly more than in the 1960s – in all countries but Bulgaria and Poland there were very substantial movements in the reverse direction with regard to the productivity of other factors of production (tables 3.6.13–3.6.15).

*Capital productivity* declined very substantially and, in most countries, at increasing rates over the 1970s. And the *ratio of net to gross agricultural production* (an increase in which signifies a fall in the unit cost of output) declined in all countries – sometimes (as in the Soviet Union) at very fast rates,[257] though in other countries the rise in unit costs as expressed by this indicator has been much less (the German Democratic

TABLE 3.6.9

**Changes in capital intensity per employee and per hectare of agricultural land**

(*Indices 1951-1960 = 100*)

| | Fixed assets per employee | | Fixed assets per hectare of agricultural land | |
|---|---|---|---|---|
| | 1961–1970 | 1971–1980 | 1961–1970 | 1971–1980 |
| Bulgaria . . . | 347.7 | 1 018.1 | 195.8 | 375.8 |
| Czechoslovakia . | 276.2 | 539.2 | 186.8 | 307.4 |
| German Dem. Rep. | 255.1 | 553.0 | 180.5 | 302.7 |
| Hungary . . . | 239.1 | 559.2 | 172.8 | 347.8 |
| Poland . . . . | 126.9 | 219.4 | 127.4 | 207.0 |
| Romania . . . | 179.1 | 520.9 | 148.0 | 299.4 |
| Soviet Union . . | 267.0 | 615.1 | 217.0 | 457.3 |

*Sources:* CMEA statistical yearbooks; national statistics.

TABLE 3.6.10

**Stock of tractors and grain combines**

| | Tractors | | | | Combines | |
|---|---|---|---|---|---|---|
| | Physical units (*thousands*) | Motor h.p. (*thousands*) | Agricultural land in hectares per tractor (*physical units*) | Motor h.p. per 100 hectares of agricultural land | Thousands of grain combines (*physical units*) | Hectares of grain area per combine |
| *Bulgaria* | | | | | | |
| 1960 . . . . . . . . . . . . | 25.8 | 918 | 255 | 16.2 | 7.0 | 372.1 |
| 1970 . . . . . . . . . . . . | 53.6 | 2 151 | 112 | 35.8 | 9.3 | 245.1 |
| 1975 . . . . . . . . . . . . | 64.7 | 3 332 | 92 | 56.0 | 10.3 | 225.5 |
| 1980 . . . . . . . . . . . . | 62.0 | 3 918 | 100 | 63.3 | 9.7 | 219.2 |
| *Czechoslovakia* | | | | | | |
| 1960 . . . . . . . . . . . . | 74.9 | 2 350 | 98 | 32.1 | 6.3 | 412.4 |
| 1970 . . . . . . . . . . . . | 136.0 | 5 786 | 52 | 81.6 | 16.4 | 162.9 |
| 1975 . . . . . . . . . . . . | 142.0 | 7 693 | 49 | 109.8 | 19.9 | 142.4 |
| 1980 . . . . . . . . . . . . | 137.0 | 8 750 | 50 | 127.7 | 17.8 | 136.8 |
| *German Democratic Republic* | | | | | | |
| 1960 . . . . . . . . . . . . | 70.6 | 2 283 | 91 | 35.6 | 6.4 | 377.2 |
| 1970 . . . . . . . . . . . . | 149.0 | 6 440 | 42 | 102.5 | 17.9 | 130.8 |
| 1975 . . . . . . . . . . . . | 140.0 | 7 585 | 45 | 120.5 | 11.2 | 232.4 |
| 1980 . . . . . . . . . . . . | 145.0 | 9 288 | 43 | 149.8 | 13.6 | 189.3 |
| *Hungary* | | | | | | |
| 1960 . . . . . . . . . . . . | 41.0 | 1 365 | 174 | 19.1 | 4.2 | 856.9 |
| 1970 . . . . . . . . . . . . | 68.4 | 3 155 | 101 | 45.9 | 11.8 | 263.4 |
| 1975 . . . . . . . . . . . . | 62.1 | 3 548 | 109 | 52.4 | 14.4 | 223.5 |
| 1980 . . . . . . . . . . . . | 55.0 | 4 122 | 120 | 62.2 | 14.1 | 211.9 |
| *Poland* | | | | | | |
| 1960 . . . . . . . . . . . . | 62.8 | 1 962 | 325 | 9.6 | 3.1 | 3 087.4 |
| 1970 . . . . . . . . . . . . | 231.0 | 7 746 | 85 | 39.6 | 14.0 | 616.5 |
| 1975 . . . . . . . . . . . . | 411.0 | 14 689 | 47 | 76.5 | 21.1 | 383.6 |
| 1980 . . . . . . . . . . . . | 620.0 | 25 565 | 31 | 134.9 | 39.3 | 204.5 |
| *Romania* | | | | | | |
| 1960 . . . . . . . . . . . . | 44.2 | 1 813 | 329 | 12.5 | 17.6 | 408.8 |
| 1970 . . . . . . . . . . . . | 107.0 | 6 238 | 140 | 41.8 | 45.2 | 134.0 |
| 1975 . . . . . . . . . . . . | 120.0 | 7 393 | 125 | 49.5 | 38.1 | 166.6 |
| 1980 . . . . . . . . . . . . | 147.0 | 9 363 | 102 | 62.6 | 39.3 | 167.4 |
| *Soviet Union* | | | | | | |
| 1960 . . . . . . . . . . . . | 1 122.0 | 47 551 | 459 | 9.2 | 497.0 | 241.2 |
| 1970 . . . . . . . . . . . . | 1 977.0 | 111 595 | 276 | 20.4 | 623.0 | 191.4 |
| 1975 . . . . . . . . . . . . | 2 334.0 | 152 315 | 235 | 27.8 | 680.0 | 188.1 |
| 1980 . . . . . . . . . . . . | 2 562.0 | 191 490 | 216 | 34.6 | 722.0 | 175.4 |

*Source* CMEA statistical yearbooks

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[257] ECE secretariat estimates in constant prices suggest that the ratio fell from 75 per cent in 1960 to 70 per cent in 1965, 64 per cent in 1970, to 48 per cent in 1975 and to 44 per cent in 1980.

### TABLE 3.6.11

### Electricity consumption

*(In million kWh)*

| Country | 1960 |  | 1970 |  | 1975 |  | 1980 |  |
|---|---|---|---|---|---|---|---|---|
|  | Total | Agriculture | Total | Agriculture | Total | Agriculture | Total | Agriculture |
| Bulgaria | 4 166 | 164 | 17 061 | 675 | 25 348 | 955 | 34 276 | 1 115 |
| Czechoslovakia | 20 677 | 459 | 41 456 | 1 575 | 54 109 | 2 336 | 63 914 | 2 715 |
| German Dem. Rep. | 39 927 | 1 351 | 68 050 | 1 870 | 85 188 | 3 329 | 100 273 | 3 891 |
| Hungary | 8 154 | 85 | 17 936 | 867 | 24 596 | 1 633 | 31 264 | 2 095 |
| Poland | 29 609 | 600 | 64 587 | 1 455 | 96 656 | 2 969 | 109 440 | 5 360 |
| Romania | 7 622 | 104 | 32 703 | 710 | 51 216 | 2 014 | 67 909 | 2 821 |
| Soviet Union[a] | 292 | 10.0 | 736 | 38.6 | 1 027 | 73.8 | 1 276 | 111 |

*Source:* CMEA statistical yearbooks.

[a] Billion kWh

### TABLE 3.6.12

### Consumption of fertilizers (nutrient value)

| Country | 1960 |  | 1970 |  | 1975 |  | 1980 |  |
|---|---|---|---|---|---|---|---|---|
|  | Thousand tons | Kg. per hectare of agricultural land | Thousand tons | Kg. per hectare of agricultural land | Thousand tons | Kg. per hectare of agricultural land | Thousand tons | Kg. per hectare of agricultural land |
| Bulgaria | 157 | 27.6 | 639 | 106 | 679 | 114 | 830 | 134 |
| Czechoslovakia | 510 | 70 | 1 227 | 174 | 1 604 | 231 | 1 730 | 254 |
| German Dem. Rep. | 951 | 148 | 1 535 | 244 | 1 826 | 290 | 1 637 | 261 |
| Hungary | 168 | 23.5 | 837 | 122 | 1 518 | 224 | 1 399 | 211 |
| Poland | 745 | 36.5 | 2 416 | 124 | 3 460 | 182 | 3 635 | 193 |
| Romania | 82 | 5.7 | 702 | 47 | 1 197 | 80 | 1 185 | 79 |
| Soviet Union | 2 624 | 5.2 | 10 317 | 19.2 | 17 251 | 31.9 | 18 763 | 34.4 |

*Source:* CMEA statistical yearbooks

### TABLE 3.6.13

### Changes in gross agricultural output

*(Indices 1951-1960 = 100)*

|  | 1961 1970 |  |  | 1971-1980 |  |  |
|---|---|---|---|---|---|---|
|  | Total | Crop | Animal | Total | Crop | Animal |
| Bulgaria | 159.1 | 181.5 | 168.5 | 209.2 | 220.1 | 251.5 |
| *Share in per cent* |  | 60.5 | 39.5 |  | 56.8 | 43.2 |
| Czechoslovakia | 116.1 | 108.6 | 138.8 | 152.3 | 133.5 | 192.8 |
| *Share in per cent* |  | 47.7 | 52.3 |  | 44.7 | 55.3 |
| German Dem. Rep. | 110.5 | 100 | 119.1 | 137.3 | 111.5 | 160.2 |
| *Share in per cent* |  | 40.9 | 59.1 |  | 36.7 | 63.3 |
| Hungary | 120.0 | 115.5 | 126.2 | 163.9 | 151.5 | 180.9 |
| *Share in per cent* |  | 56.9 | 43.1 |  | 54.6 | 45.4 |
| Poland | 132.0 | 119.2 | 152.7 | 168.0 | 143.8 | 206.3 |
| *Share in per cent* |  | 54.8 | 45.2 |  | 51.9 | 48.1 |
| Romania | 139.1 | 135.0 | 145.6 | 218.2 | 196.0 | 256.7 |
| *Share in per cent* |  | 62.5 | 37.5 |  | 57.8 | 42.2 |
| Soviet Union | 134.6 | 134.7 | 134.1 | 174.2 | 167.6 | 171.4 |
| *Share in per cent* |  | 50.6 | 49.4 |  | 48.7 | 51.3 |

*Sources:* CMEA statistical yearbooks.

TABLE 3.6.14

**Output of selected agricultural produce per capita**

| | Grain kg | Meat kg | Milk kg | Eggs |
|---|---|---|---|---|
| *Bulgaria* | | | | |
| 1960 | 638 | 39.0 | 142 | 153 |
| 1970 | 815 | 56.0 | 192 | 186 |
| 1975 | 839 | 75.3 | 207 | 208 |
| 1980 | 869 | 88.9 | 250 | 276 |
| *Czechoslovakia* | | | | |
| 1960 | 430 | 58.8 | 300 | 166 |
| 1970 | 509 | 76.6 | 347 | 260 |
| 1975 | 637 | 91.1 | 376 | 304 |
| 1980 | 709 | 108.0 | 390 | 320 |
| *German Democratic Republic* | | | | |
| 1960 | 376 | 59.2 | 352 | 204 |
| 1970 | 383 | 79.0 | 403 | 260 |
| 1975 | 533 | 109.0 | 443 | 300 |
| 1980 | 579 | 114.0 | 433 | 329 |
| *Hungary* | | | | |
| 1960 | 713 | 81.7 | 166 | 185 |
| 1970 | 752 | 101.0 | 167 | 317 |
| 1975 | 1 153 | 135.0 | 174 | 380 |
| 1980 | 1 322 | 144.0 | 239 | 409 |
| *Poland* | | | | |
| 1960 | 511 | 58.9 | 426 | 188 |
| 1970 | 511 | 67.1 | 461 | 213 |
| 1975 | 583 | 90.0 | 482 | 236 |
| 1980 | 521 | 88.3 | 464 | 250 |
| *Romania* | | | | |
| 1960 | 548 | 30.5 | 182 | 118 |
| 1970 | 536 | 43.8 | 193 | 158 |
| 1975 | 724 | 64.6 | 216 | 234 |
| 1980 | 915 | 79.7 | 247 | 290 |
| *Soviet Union* | | | | |
| 1960 | 586 | 40.5 | 288 | 124 |
| 1970 | 769 | 50.6 | 342 | 165 |
| 1975 | 551 | 58.8 | 357 | 224 |
| 1980 | 712 | 56.4 | 341 | 251 |

*Source* *CMEA Statistical Yearbook 1981*, pp. 235, 236

TABLE 3.6.15

**Changes in labour productivity and productivity per hectare of agricultural land**
(*Indices 1951-1960 = 100*)

| | Labour productivity | | Land productivity | |
|---|---|---|---|---|
| | 1961-1970 | 1971-1980 | 1961-1970 | 1971-1980 |
| Bulgaria | 274.4 | 524.6 | 154.8 | 194.0 |
| Czechoslovakia | 177.4 | 283.2 | 120.2 | 161.6 |
| German Dem. Rep. | 159.6 | 258.9 | 112.6 | 141.4 |
| Hungary | 173.5 | 283.2 | 125.2 | 176.0 |
| Poland | 135.3 | 189.4 | 135.9 | 178.7 |
| Romania | 162.6 | 363.6 | 134.8 | 209.3 |
| Soviet Union | 151.9 | 210.1 | 122.5 | 155.9 |

*Sources:* CMEA statistical yearbooks

TABLE 3.6.16

**Changes in capital productivity and net output/gross output ratio**
(*Indices 1951–1960 = 100*)

| | Capital productivity | | Net output/gross output ratio | |
|---|---|---|---|---|
| | 1961 1970 | 1971-1980 | 1961 1970 | 1971-1980 |
| Bulgaria | 79.0 | 51.6 | 86.2 | 64.5 |
| Czechoslovakia | 64.3 | 52.5 | 84.2 | 74.1 |
| German Dem. Rep. | 62.5 | 46.8 | 97.9 | 93.4 |
| Hungary | 72.5 | 50.6 | 85.8 | 70.0 |
| Poland | 106.6 | 86.4 | 100.8 | 84.3 |
| Romania | 90.83 | 69.8 | 99.3 | 87.3 |
| Soviet Union | 56.7 | 32.5 | 97.6 | 68.2 |

*Sources* CMEA statistical yearbooks

Republic, Romania, Poland) (table 3.6.16). In part, these increases in costs represent unavoidable changes in world market conditions – for instance, the rise in oil prices has led to considerable increases in the price of petroleum-based agrochemicals for farmers throughout the world. However, they also reflect the fact that, although the supply of resources to agricultural overall – whether in the form of productivity-enhancing capital equipment to substitute for labour or of the volume of current inputs – has been increased very considerably over levels in the 1950s and 1960s, the expected and planned increase of output did not materialize, especially in the second half of the 1970s. Decreasing efficiency reflected in growing inputs per unit of output cast doubt upon the desirability of (and possibilities for) continuing the rapid introduction of industrialized large-scale agricultural production, which is, *inter alia*, highly energy-intensive. Accordingly, previous fast rates of progress in industrialising agriculture have moderated since the end of the 1970s and input – and energy – saving approaches now determine agricultural policy in all the countries concerned. Territorially based forms of organization in production services and supply, in order to reduce transport expenditures, continue to gain ground and have been accompanied by the corresponding measures in state and enterprise management and planning since 1980.

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# *Chapter 4*

# *INTERNATIONAL TRADE AND PAYMENTS*

## 4.1 OVERVIEW AND BACKGROUND: THE ECE REGION IN THE FRAMEWORK OF WORLD TRADE AND FINANCIAL DEVELOPMENTS

Following three years of stagnation or decline, world trade rose by an estimated 1–2 per cent in volume in 1983. A pronounced recovery of imports into North America and some acceleration of import growth in the European centrally planned economies contributed to this modest upswing; imports into other regions expanded only slowly or continued to decline. The value of world trade, measured in dollar terms, declined further, reflecting a decrease in the dollar prices of traded goods. In fact, the prices of oil and manufactures dropped, while those of primary commodities tended to rise somewhat. These volume and price movements led to substantial changes in the regional pattern of current account balances. The deficits of the United States and the OPEC group widened significantly, while that of the non-oil developing countries shrank again. On the other hand, industrial western Europe moved into surplus while the European centrally planned economies and Japan strengthened their surplus positions.

Activity in the international capital markets slowed considerably in 1983. This development reflects lower lending to most major groups of borrowers, including the non-oil developing countries the indebtedness of which continued to rise, albeit at a slower pace. By contrast, the net external debt of eastern Europe and the Soviet Union declined again as these countries maintained their position in the international financial system as net suppliers of funds.

This section examines these developments in world trade and finance. Part (i) summarizes the most recent changes in the foreign trade of the ECE region and the other large economic groupings, reviews the recent changes in the pattern of current account balances, and concludes with an assessment of prospects for world trade in 1984. Part (ii) commences with a review of recent changes in global financial flows and then serves as a background against which developments in east-west financial relationships are examined.

### (i) Trade and current account balances

The recession that hit the world economy in 1980–1982 had a serious dampening effect on international trade. Its impact was most severely felt by developing countries, particularly those that are not net exporters of oil. For these countries, the consequences of the weakness in world demand were reinforced by a fall in commodity prices, resulting in a sharp deterioration of the terms of trade. Moreover, the appreciation of the US dollar and the rise in interest rates made the service of their foreign debt increasingly difficult. In addition, the import cutbacks which debt-troubled countries were forced to undertake, brought a new element into the international economy, which further depressed world trade.

The situation apparently improved somewhat in 1983, owing to a sharp rise in imports into North America. This boosted exports from other regions, especially from countries that conduct a high proportion of trade with the United States (Canada, Japan and Latin America).

However, despite the positive effects of the economic recovery, *the value of world trade* probably declined further in 1983: in the first three quarters of the year, it was 3 to 4 per cent below the level of a year earlier, and more than 10 per cent lower than in the first three quarters of 1980 – the last year of growth in world trade value (table 4.1.1). This fall reflects the persistent appreciation of the dollar, and the consequent drop in dollar prices, as well as the slow growth of trade volumes, which in some regions were not yet significantly affected by that recovery.

The value of the *ECE region*'s trade also continued to fall in 1983, but the decline – at some 2 per cent – was less than that of world trade, owing to continued growth in the trade of the *European centrally planned economies*, the only group of countries registering any increase in trade value during the last two years. In the first three quarters of 1983, the value of the foreign trade of eastern Europe and the Soviet Union rose by some 5 to 6 per cent, measured in dollars. This mainly reflects an acceleration in the growth of the intra-trade of these countries to about 10 per cent, part of which was due to the continued increase of prices in the CMEA markets; but there was also an increase in the value of trade with the developed and developing market economies, in spite of falling prices. The growth of the centrally planned economies' exports to the market economies slowed somewhat in the January–September period, in comparison with the preceding year, but was still nearly 3 per cent, and the decline in imports from these countries came to a halt.

In the *developed market economies*, the value of exports declined in the same period by nearly 3 per cent, a smaller shrinkage than in 1982. This fall was due mainly to a significant drop in exports to the developing countries, including the OPEC members: data for the first half of 1983 (table 4.1.2) indicate a 13 per cent decline as compared with the first half of 1982. But the developed market economies' intra-trade also contracted – an increase in exports to the United States (of nearly 6 per cent in the first half of the year) was offset by a decrease in exports to western Europe (4 per cent) and

TABLE 4.1.1

**Changes in the value of world trade, by region, 1978–1983**
*(Percentage change over previous year)*

| Country group | 1982 $ billion | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 Jan.–Sept. |
|---|---|---|---|---|---|---|---|
| *Exports* | | | | | | | |
| Developed market economies | 1179.5 | 19.8 | 22.8 | 17.8 | −1.7 | −5.1 | −2.8 |
| Developing market economies | 479.5 | 4.3 | 39.2 | 32.5 | −1.5 | −11.9 | −6.9[a] |
| OPEC | 224.0 | −4.0 | 49.8 | 39.6 | −7.4 | −20.4 | −18.5[a] |
| Non-oil developing countries | 255.5 | 13.6 | 29.2 | 24.8 | 5.8 | −2.8 | 1.2[a] |
| European centrally planned economies | 166.0 | 14.2 | 20.1 | 15.1 | 1.2 | 5.0 | 6.4 |
| Total above | 1825.0 | 15.3 | 26.4 | 21.3 | −1.4 | −6.2 | −3.7 |
| *Memorandum items* | | | | | | | |
| ECE region | 1167.3 | 18.9 | 24.3 | 16.7 | −3.3 | −3.4 | −2.4 |
| Developing market economies of America | 105.1 | 8.0 | 31.7 | 30.0 | 2.3 | −7.0 | 6.0 |
| *Imports* | | | | | | | |
| Developed market economies | 1277.3 | 15.6 | 28.8 | 20.1 | −4.9 | −6.2 | −4.6 |
| Developing market economies | 461.3 | 16.1 | 18.6 | 29.2 | 11.1 | −4.9 | −6.4[a] |
| OPEC | 150.6 | 11.9 | 0.7 | 29.1 | 17.7 | 2.5 | −9.8[a] |
| Non-oil developing countries | 310.7 | 18.4 | 27.7 | 29.2 | 8.4 | −8.1 | −4.9[a] |
| European centrally planned economies | 152.3 | 17.0 | 13.4 | 15.0 | 0.3 | −1.4 | 4.7 |
| Total above | 1890.9 | 15.8 | 25.3 | 21.5 | −1.1 | −5.5 | −4.3 |
| *Memorandum items* | | | | | | | |
| ECE region | 1242.3 | 16.1 | 25.8 | 18.6 | −5.7 | −5.4 | −2.2 |
| Developing market economies of America | 108.7 | 10.7 | 25.1 | 31.8 | 3.5 | −14.1 | −25.9 |

*Sources*: United Nations, *Monthly Bulletin of Statistics*, New York, January 1984, and, for the centrally planned economies, ECE secretariat data based on national statistical publications. For market economies, exports are *f.o.b.* and imports *c.i.f.*; for most centrally planned economies, exports and imports are *f.o.b*

[a] Full year, preliminary estimate (in Council of Economic Advisers, "Annual Report", February 1984).

Japan (2 per cent). The value of the developed market economies' imports dropped by almost 5 per cent, partly owing to a steady fall in imports from the OPEC countries. In the United States, the decline in the value of imports from OPEC was more than compensated by sharply rising imports from other regions, but in western Europe the value of imports from most other areas declined as well.

According to preliminary estimates, *OPEC* revenues shrank nearly 20 per cent in 1983. This decline follows a 20 per cent fall in 1982 and a 7 per cent decrease in 1981. The 1983 downturn mainly reflects the 15 per cent price cut of March 1983, while in the preceding two years volume effects had been more important. Faced with persistently decreasing export earnings, the OPEC members have significantly reduced their imports: data for the first half of 1983 indicate a 17 per cent decline, but for the year as a whole the value of imports into OPEC countries seems to have fallen less markedly (table 4.1.1). This fall is in striking contrast with the high rates of growth that occurred in 1980 and 1981.

In the *non-oil developing countries*, export earnings fell in the first half of 1983, as compared with the same period of 1982: although the value of their exports to the United States rose strongly in this period (by 15 per cent, in dollars), this gain was more than offset by contracting exports to other destinations. In the second half of the year the export volumes of these countries appear to have grown rather fast and export prices may have stabilized or risen slightly (in dollar terms, there was an increase in prices of primary commodities and a drop in prices of manufactures of about the same magnitude). Hence, for 1983 as a whole, the export earnings of the non-oil developing countries may even have risen somewhat. However, contrasting developments may have occurred in different groups of non-oil developing countries: the recovery in North America stimulated exports from Latin America and some Asian countries,[258] but exports from other regions may have remained depressed. The value of imports into non-oil developing countries fell in 1983, apparently owing to a decline in the dollar prices of oil and manufactures, but in volume terms imports may have risen slightly. However, imports of some major debtor countries dropped very sharply.[259]

In the first nine months of 1983, the *volume of world trade* was 1 to 2 per cent above the level in the corresponding period of 1982 (table 4.1.3). Trade volumes of the developed market economies increased at about the same rate. Import and export volumes of *western Europe* seem to have increased 1 per cent as compared with the first three quarters of 1982. In *North America*, imports rose 6 per cent and exports declined 5 per

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[258] In January–September 1983 the value of Latin American exports was 6 per cent above the level for the same nine months of 1982.

[259] In the first three quarters of 1983 the value of imports into Latin America was 26 per cent lower than for the same period of 1982, a decline that suggests important volume cutbacks.

TABLE 4.1.2

**Changes in world export values by origin and destination, 1982–1983**
*(First half of each year: percentage change from first half of previous year)*

| Country group of origin | World | Developed market economies | | | Developing market economies | | | Centrally planned economies | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total | United States | Western Europe | Total | OPEC | Non-oil | Total | Eastern Europe | Soviet Union |
| World | | | | | | | | | | |
| 1982 | −4.1 | −6.7 | −12.2 | −4.2 | 1.1 | 11.6 | −2.8 | 0.5 | −0.8 | 5.1 |
| 1983 | −6.3 | −4.6 | 3.6 | −5.8 | −12.1 | −17.2 | −9.8 | 0.1 | −2.1 | 2.1 |
| Developed market economies | | | | | | | | | | |
| 1982 | −0.7 | −0.6 | 0.8 | 0.4 | −0.7 | 8.2 | −5.4 | −9.6 | −24.4 | 8.9 |
| 1983 | −5.5 | −2.5 | 5.9 | −4.1 | −12.9 | −17.8 | −9.9 | −6.7 | −16.7 | −4.6 |
| Canada | | | | | | | | | | |
| 1982 | −0.9 | −1.5 | 0.2 | −14.1 | −2.1 | 5.3 | −5.1 | 21.9 | 6.7 | 34.1 |
| 1983 | 3.2 | 6.1 | 11.0 | −15.2 | −16.1 | −30.3 | −9.7 | 3.6 | −30.4 | −7.0 |
| United States | | | | | | | | | | |
| 1982 | −7.0 | −8.5 | — | −6.4 | −8.0 | 2.6 | −11.3 | 3.6 | −50.0 | 87.3 |
| 1983 | −10.5 | −4.5 | — | −8.2 | −17.4 | −26.9 | −13.9 | −42.2 | −29.2 | −49.1 |
| Western Europe | | | | | | | | | | |
| 1982 | 2.2 | 2.0 | 2.0 | 2.0 | 6.9 | 12.6 | 2.3 | −11.9 | −20.5 | −2.2 |
| 1983 | −5.1 | −3.3 | 2.5 | −3.4 | −13.3 | −16.8 | −10.1 | 1.3 | −18.0 | 11.4 |
| Japan | | | | | | | | | | |
| 1982 | −3.7 | −0.4 | 4.1 | −6.3 | −4.6 | 4.5 | −8.8 | −20.2 | −36.8 | 11.3 |
| 1983 | −2.4 | — | 2.3 | −0.3 | −5.9 | −11.0 | −3.2 | 4.4 | 56.8 | −19.1 |
| Developing market economies | | | | | | | | | | |
| 1982 | −15.1 | −22.4 | −27.6 | −23.5 | 0.8 | 14.4 | −1.5 | 0.8 | −0.4 | −3.0 |
| 1983 | −11.6 | −11.5 | 0.2 | −17.0 | −15.9 | −9.2 | −17.2 | −2.0 | −4.2 | 1.4 |
| OPEC | | | | | | | | | | |
| 1982 | −26.0 | −34.5 | −53.4 | −33.9 | −3.8 | −6.1 | −3.7 | −7.4 | 8.0 | −41.2 |
| 1983 | −23.2 | −25.5 | −35.5 | −23.6 | −21.6 | −21.4 | −21.6 | 27.1 | −7.0 | 157.0 |
| Non-oil developing countries | | | | | | | | | | |
| 1982 | −2.9 | −6.2 | −5.4 | −6.2 | 5.2 | 18.8 | 1.1 | 2.3 | −5.1 | 0.6 |
| 1983 | −1.8 | 1.7 | 15.3 | −9.3 | −10.8 | −7.2 | −12.2 | −6.7 | −2.4 | −7.2 |
| Centrally planned economies | | | | | | | | | | |
| 1982 | 8.4 | 5.8 | −6.3 | 7.6 | 20.5 | 60.6 | 10.8 | 7.6 | 8.3 | 5.9 |
| 1983 | 2.3 | 0.4 | −4.7 | 1.8 | −0.1 | −31.8 | 10.9 | 4.9 | 2.1 | 8.8 |
| Eastern Europe | | | | | | | | | | |
| 1982 | 3.4 | −5.4 | −31.1 | −3.6 | 18.6 | 16.9 | 19.9 | 7.9 | 10.2 | 6.0 |
| 1983 | −2.3 | 0.7 | 2.8 | 0.7 | −13.6 | −11.7 | −15.2 | −0.5 | −13.5 | 8.9 |
| Soviet Union | | | | | | | | | | |
| 1982 | 11.6 | 17.4 | 31.3 | 18.7 | 12.9 | 167.5 | −4.6 | 7.2 | 7.2 | — |
| 1983 | 9.0 | 1.1 | 74.3 | 0.6 | 13.9 | −50.5 | 34.4 | 12.6 | 12.8 | — |

*Source*: United Nations, *Monthly Bulletin of Statistics*, New York, December 1983

cent. The changes in trade of the developed market economies as a group are also influenced by a 7 per cent volume increase in exports of the market economies of Asia (mainly Japan) and a 4 per cent decline in their imports.

These year-to-year developments, however, need to be qualified in terms of quarterly changes within the year. Quarterly indices (seasonally adjusted) reveal that the volume of west European imports, which had risen from the end of 1982, declined slightly in the third quarter of 1983 (chart 4.1.1); exports had picked up in the second quarter, actually increasing 9 per cent from the previous quarter. In North America imports rose steadily in the two first quarters of 1983 and less markedly in the third quarter; the volume of North American exports also increased from its depressed end-1982 level. While it is still too early to fully explain this growth, it does seem to have originated in exports to Canada and Japan, two markets where the United States' competitive position may have improved in 1983.[260]

The *European centrally planned economies* seem to have registered significant growth in trade volume in 1983. Exports of these countries to the developed and developing market economies rose by an estimated 11–12 per cent in volume relative to 1982. The volume of Soviet exports to these markets appears to have increased about 12 per cent, representing a slowdown from the previous year's expansion, while that of the smaller east European countries grew by some 9 per cent, accelerating substantially from 1982. Imports from the market

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[260] The value of the US dollar remained constant, vis-à-vis the Canadian currency, while it even depreciated against the Japanese yen. Taking into account the differences in the prevailing inflation rates in these countries, in real terms the US dollar depreciated some 3 per cent in relation to each of the two other countries.

TABLE 4.1.3

**Changes in the volume of world trade, by region, 1978–1983**
(*Percentage change over previous year*)

| Country or Group | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 Jan.-Sept.[a] |
|---|---|---|---|---|---|---|
| *Exports* | | | | | | |
| Developed market economies | 6 | 7 | 4 | 2 | −2 | 1 |
| North America . . . | 11 | 9 | 4 | −2 | −8 | −5 |
| Western Europe . . . | 5 | 8 | 2 | 3 | 1 | 1 |
| Asia[b] . . . . . . . . | 1 | −2 | 18 | 11 | −4 | 7 |
| Developing market economies | 1 | 6 | −8 | −6 | −7 | 2 |
| OPEC . . . . . . . | −4 | 3 | −13 | −16 | −20 | −8 |
| Non-oil developing countries . . . . | 10 | 9 | 6 | 4 | 1 | 4 |
| European centrally planned economies . . . . . . | 5 | 5 | 2 | 1 | 6 | 6 |
| Eastern Europe . . . | 6 | 8 | 3 | 2 | 7 | 7 |
| Soviet Union . . . . | 3 | 1 | 2 | — | 6 | 5 |
| Total above . . . . . . . | 5 | 6 | — | — | −3 | 2 |
| *Imports* | | | | | | |
| Developed market economies | 3 | 10 | — | −2 | — | 2 |
| North America . . . . | 8 | 2 | −7 | 2 | −6 | 6 |
| Western Europe . . . | 2 | 13 | 3 | −4 | 2 | 1 |
| Asia[b] . . . . . . . | 3 | 12 | −7 | −2 | — | −4 |
| Developing market economies | 7 | 1 | 9 | 8 | 1 | −3 |
| OPEC . . . . . . . | 5 | −12 | 15 | 20 | 5 | −8 |
| Non-oil developing countries . . . . | 8 | 11 | 4 | 2 | −8 | 1 |
| European centrally planned economies . . . . . . | 9 | 1 | 4 | 1 | 1 | 4 |
| Eastern Europe . . . | 5 | 2 | 1 | −5 | −5 | 4 |
| Soviet Union . . . . | 13 | 1 | 7 | 8 | 7 | 5 |
| Total above . . . . . . . | 5 | 8 | 1 | 1 | — | 1 |

*Sources*: United Nations, *Monthly Bulletin of Statistics*, New York, January 1984; IMF, *International Financial Statistics*, January 1984; IMF, *World Economic Outlook*, Washington D.C., 1983, for the OPEC and non-oil developing countries in 1978–1982, OECD, *Economic Outlook* (34), December 1983, for the same country groups in 1983; OECD, *Monthly Statistics of Foreign Trade*, Series A, January 1984. ECE secretariat estimates for the developing countries in 1983 and for the centrally planned economies

[a] Full year estimates for the developing market economies and centrally planned economies

[b] Japan and Israel

economies also increased rapidly, by some 5–6 per cent, following a small decline in 1982. This reflects continued high volume growth in Soviet imports and a 3–4 per cent upturn in the imports of eastern Europe (which, however, remain well below the 1980 level after a decline of 25 per cent in 1981–1982). Trade among the centrally planned economies increased at a lower rate, some 3 per cent, but this was also an improvement on the 1 per cent growth in 1982.

Both the exports and imports of the *OPEC countries* seem to have declined by about 8 per cent in volume, in 1983. The volume of exports from *non-oil developing countries* rose 4 per cent, stimulated by the economic recovery in North America, while the volume of imports increased just 1 per cent.

*Trade prices*, in dollar terms, declined further in 1983, owing to a fall in the prices of manufactures and oil, while primary commodity prices tended to rise. Since 1981 decelerating inflation in the developed market economies and the weakness of world demand have led to a clear softening of world prices of manufactures, which has meant falling dollar prices (table 4.1.4). In the first nine months of 1983, oil prices were 12 per cent lower than in the corresponding months of 1982 (they had previously fallen 4 per cent in 1982), owing mainly to the 15 per cent cut in the average OPEC reference price in March. Primary commodity markets experienced their most severe depression of the postwar period in 1981–1982. However, since the end of 1982, prices of primary commodities have started to recover: the UNCTAD combined index turned upward in the last quarter of 1982, rose 15 per cent by August 1983, and then remained more or less stable until December.[261] This upward price movement was evident for agricultural products (particularly vegetable oils and oilseeds), while for minerals and metals an upswing in late 1982 was followed by a downturn starting in the second quarter of 1983. On an annual basis the combined index of primary commodity prices rose 6 per cent in 1983. Supply conditions are likely to have influenced these price movements, particularly in the case of agricultural goods, but they also seem to have been affected by a growth in demand, apparently for inventory rebuilding.

These price movements imply shifts in the *terms of trade* of most country groups (table 4.1.5). The terms of trade of the *non-oil developing countries* increased in 1983, although the improvement was not as great as might have been expected, given the increase in commodity prices and the fall in the prices of oil and manufactures: a number of countries in the group of non-oil developing countries are actually net oil exporters and some are increasingly exporting manufactures. However, the improvement in the terms of trade of these countries as a group

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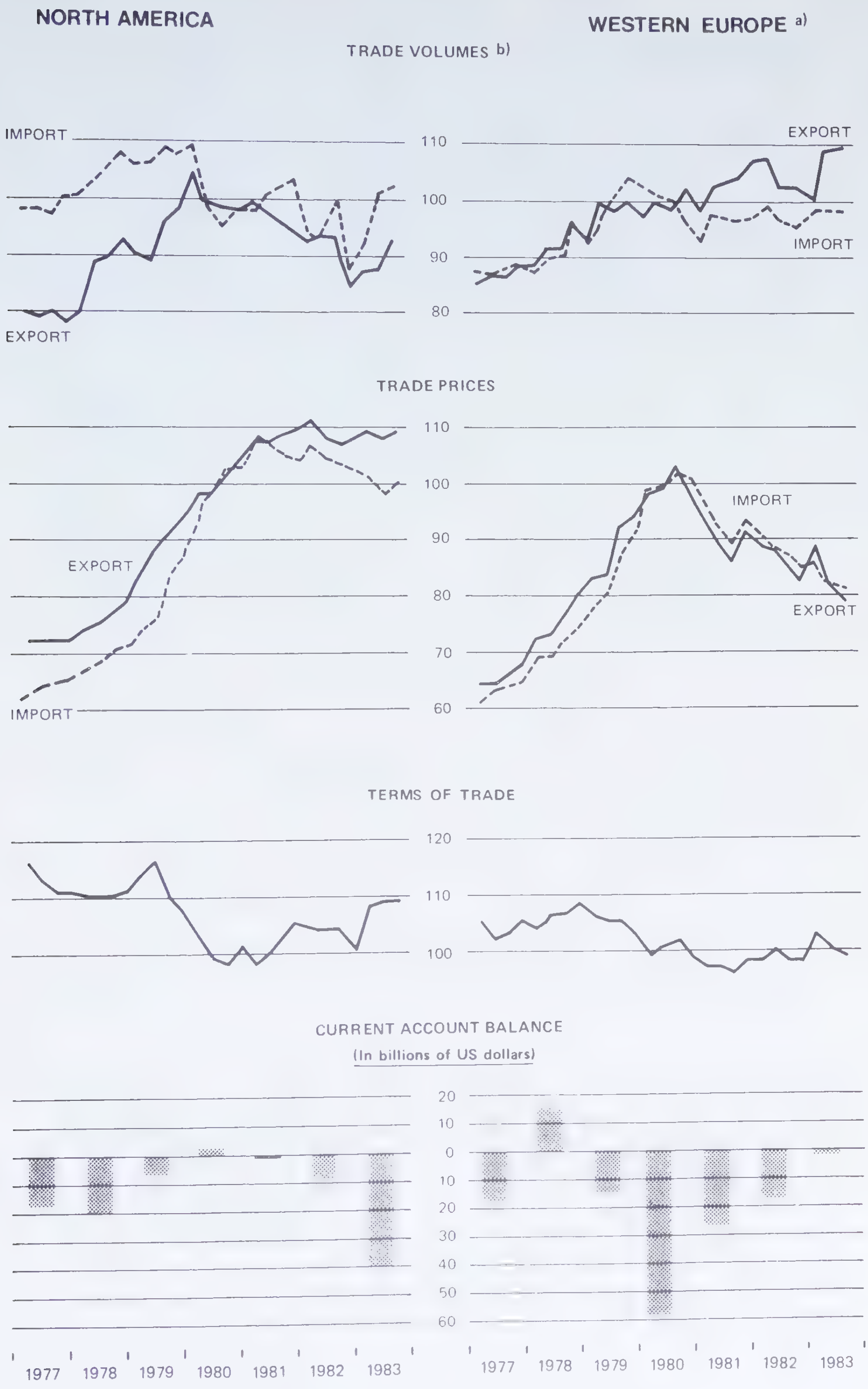
[261] UNCTAD, *Monthly Commodity Price Bulletin*, vol.III, . No.12, Geneva, December 1983. The combined index is weighted according to the relative importance of each commodity group in the value of exports of developing countries in 1975–1977.

Chart 4.1.1

## FOREIGN TRADE AND CURRENT ACCOUNT BALANCES

(1980 = 100)



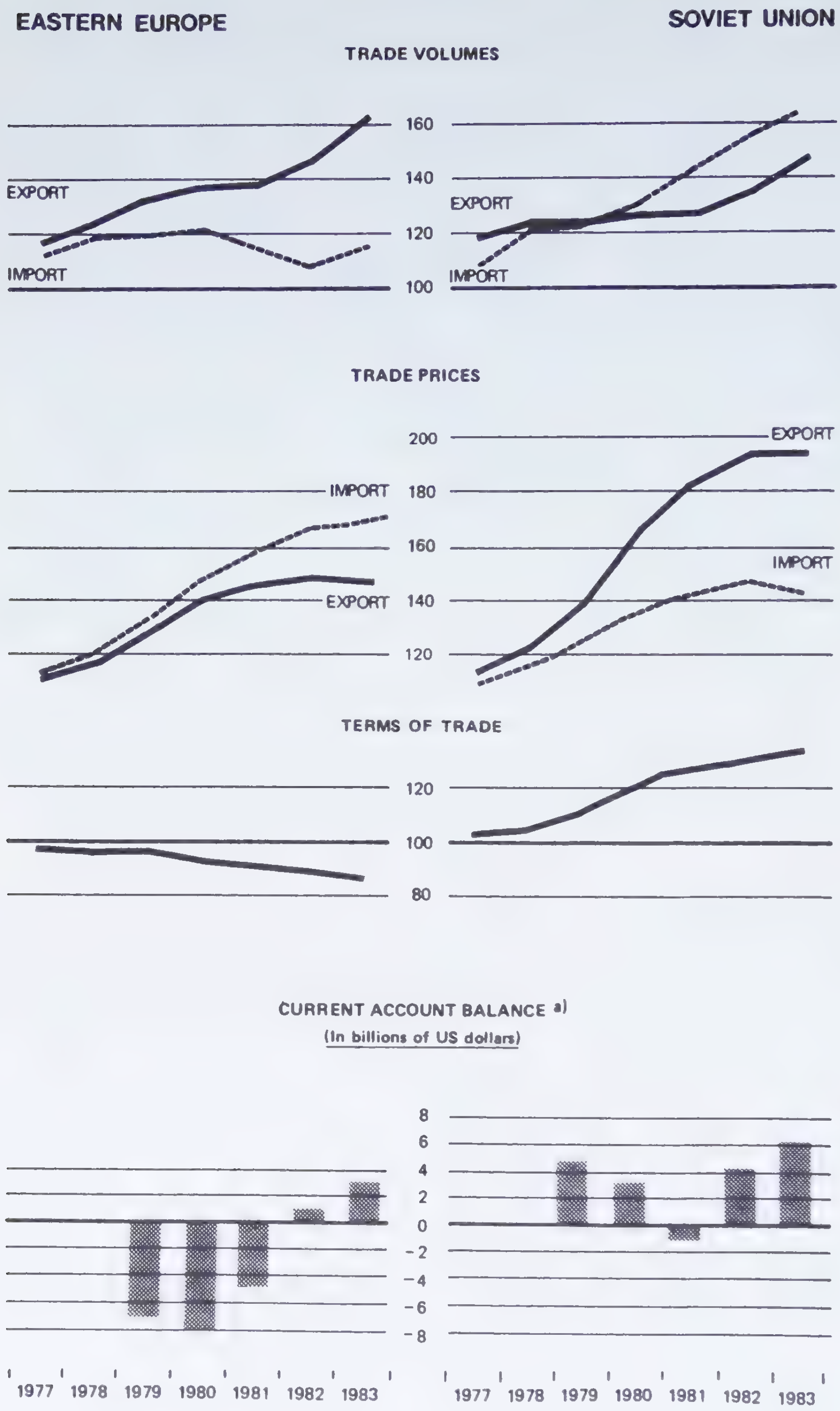
Sources: see Tables 4.1.2, 4.1.4 and 4.1.5.

a) Including South Europe

b) Seasonaly adjusted

Chart 4.1.1 (continued)

## FOREIGN TRADE AND CURRENT ACCOUNT BALANCES
(1975 = 100)



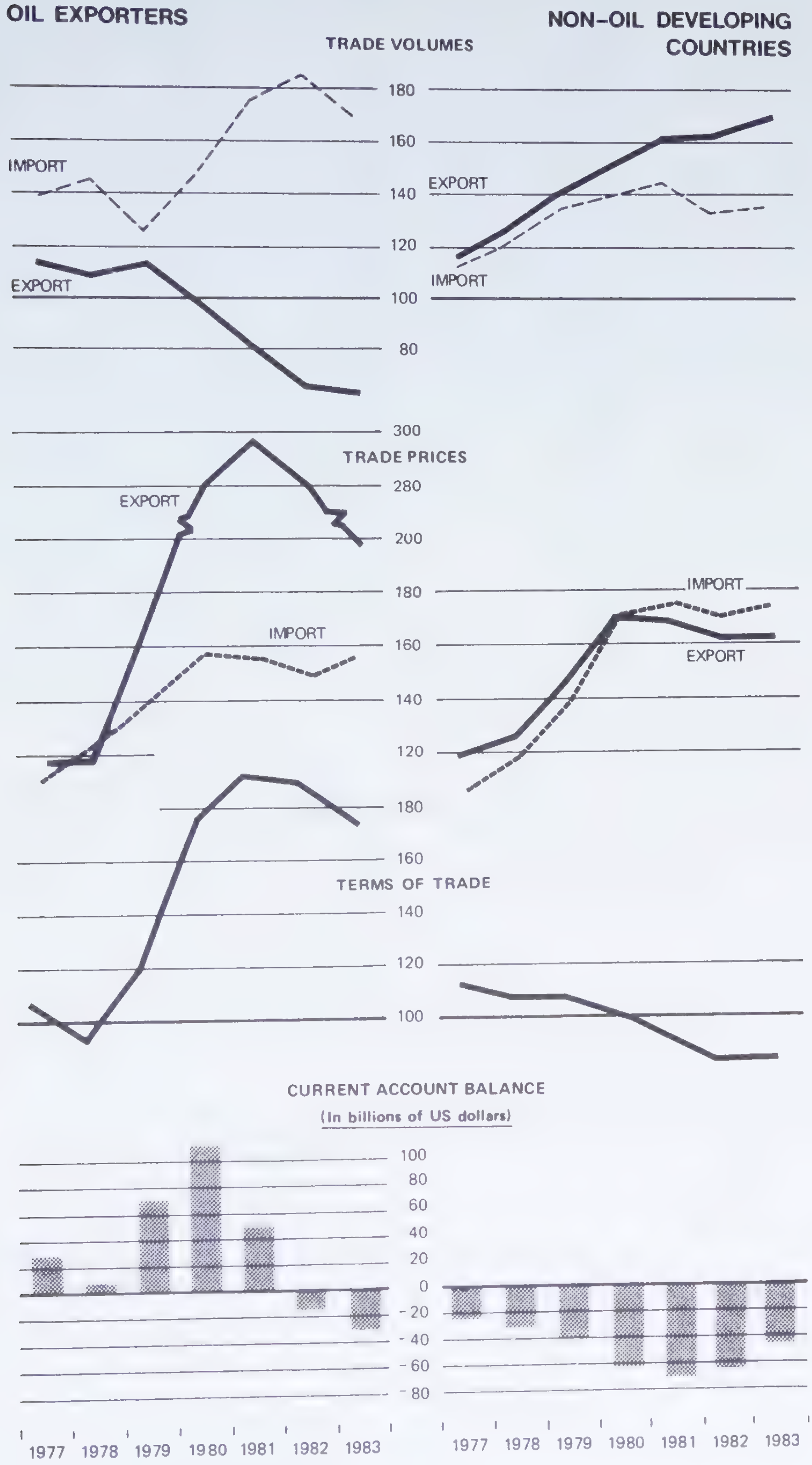
Sources: see Tables 4.1.2, 4.1.4 and 4.1.5.

a) In convertible currencies only

Chart 4.1.1 (concluded)

## FOREIGN TRADE AND CURRENT ACCOUNT BALANCES

(1975 = 100)



Sources: see Tables 4.1.2, 4.1.4 and 4.1.5.

is nevertheless important, when viewed against the sharp deterioration which started in 1977. After a steady rise in 1979–1981, the *OPEC* terms of trade declined slightly in 1982 and dropped some 10 per cent in 1983. The terms of trade of the *developed market economies* improved (by some 2 per cent) in the first nine months of 1983 as compared to the same period of 1982. The improvement was stronger for North America (about 4 per cent) than for western Europe (2 per cent). Quarterly indices reveal that North America experienced a continuous amelioration in the first nine months of 1983, while the terms of trade of western Europe increased in the first quarter and deteriorated in the following two quarters (chart 4.1.1). In the *centrally planned economies*, the overall terms of trade of the Soviet Union continued to improve slightly in the first three quarters of 1983, in spite of the decline in world oil prices: gains in the CMEA markets offset losses elsewhere. The terms of trade of the east European countries again fell in both markets.

One of the most striking features of recent changes in *current account balances* is the increasing deficit of the *OPEC group* since 1982. In 1983, this deficit reached some $30 billion, contrasting with surpluses of $115 billion and $52 billion, respectively, in 1980 and 1981 (table 4.1.6 and chart 4.1.1). Among the *developed market economies*, the most significant shifts occurred in the current balances of the United States and Japan. The former moved from a $5 billion surplus in 1981 to a deficit of almost $12 billion in 1982, which is estimated to have risen to about $41 billion in 1983.[262] The factors underlying this deterioration are the drop in the developing countries' import demand, the rise in imports reflecting the recovery in output, and the effects of declining competitiveness at home and abroad (exports appear now to have started recovering, but imports have increased much faster).[263] A major counterpart of the worsening North American current balance is the steadily expanding surplus of Japan ($23 billion in 1983) owing to boosted exports and rapidly declining imports. Industrial western Europe[264] moved into surplus in 1983, mainly due to the surpluses of the United Kingdom, the Federal Republic of Germany, the Netherlands and Switzerland, while southern Europe remained in deficit, though to a smaller extent than in previous years.

TABLE 4.1.4

**Market economies: changes in trade prices (in US dollar terms), by major commodity groups, 1978–1983**
(*Percentage change over previous year*)

| | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 Jan.–Sept |
|---|---|---|---|---|---|---|
| Manufactures[a] . . . | 15 | 14 | 11 | –5 | –2 | –4 |
| Oil[b] . . . . . . . | 2 | 45 | 68 | 13 | –4 | –12 |
| Non-oil commodities[c] | –7 | 15 | 15 | –16 | –16 | 6[d] |

[a] Export unit value index for manufactures of developed countries, United Nations, *Monthly Bulletin of Statistics*, New York, December 1983.
[b] OPEC average (US dollars per barrel), NIESR, *National Institute Economic Review*, No 106, London, November 1983.
[c] Indices of market prices of principal commodity exports of developing countries, UNCTAD, *Monthly Commodity Price Bulletin*, vol.III, No. 12, Geneva, December 1983
[d] Full year.

Among the *centrally planned economies*, the substantial turnaround in the current account of eastern Europe, from a long-standing deficit to a small surplus in 1982, was not only maintained in 1983 but also improved upon, while the Soviet Union probably enlarged its overall surplus. Precise data are not available since most of these countries do not publish current account statistics, but the direction of change is clear from the improvement of commodity trade balances and the reduction of invisible deficits stemming from lower debt levels and some decline in interest rates.

The combined current account deficit of the *non-oil developing countries* decreased from some $65 billion in 1982 to $45 billion in 1983. The deficit of these countries had attained $76 billion in 1981. The improvements of the last several years involved considerable import cutbacks in a number of countries and some easing of debt service payments. The

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[262] Latest estimate of the United States Administration, which incorporates an estimated deficit of $69 billion in the trade balance (in Council of Economic Advisers, "Annual Report", February 1984).
[263] See also section 4.2(iii) below
[264] Western Europe excluding Greece, Portugal, Spain and Turkey.

TABLE 4.1.5

**Changes in the terms of trade (in US dollar terms), by region, 1978–1983**
(*1975 = 100*)

| Country group | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 Jan.–Sept |
|---|---|---|---|---|---|---|
| Developed market economies, . . . . . . | 100 | 98 | 90 | 89 | 90 | 92 |
| *of which* | | | | | | |
| North America . . . | 94 | 93 | 85 | 87 | 88 | 92 |
| Western Europe . . . | 101 | 100 | 95 | 92 | 94 | 95 |
| Developing market economies . . . . . | 100 | 109 | 124 | 128 | 127 | 125[a] |
| OPEC[b] . . . . . . . | 95 | 122 | 173 | 194 | 191 | 173[a] |
| Non-oil developing countries . . . . | 108 | 107 | 103 | 101 | 98 | 99[b] |
| European centrally planned economies . . | 101 | 103 | 106 | 108 | 106 | 105 |
| Eastern Europe . . . | 97 | 97 | 94 | 92 | 89 | 87 |
| Soviet Union . . . . | 106 | 112 | 122 | 129 | 131 | 132 |

*Sources*: United Nations, *Monthly Bulletin of Statistics*, New York, January 1984, IMF, *World Economic Outlook*, Washington D.C., 1983 for OPEC and non-oil developing countries in 1982, ECE secretariat estimates for developing market economies in 1983 and for the centrally planned economies
[a] Full year
[b] Excluding Ecuador and Gabon and including Oman

TABLE 4.1.6

**Balance of payments on current account, by major country groups, 1979–1983**

(*Billions of US dollars*)

| | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|
| Total OECD countries, | −28 | −69 | −28 | −30 | −22 |
| *of which* | | | | | |
| North America | −5 | 1 | — | −9 | −39 |
| Industrial western Europe[a] | −12 | −47 | −12 | −7 | 10 |
| Southern Europe[b] | −2 | −12 | −12 | −11 | −8 |
| Japan | −9 | −11 | 5 | 7 | 21 |
| OPEC | 61 | 115 | 52 | −16 | −31 |
| Non-oil developing countries | −38 | −63 | −76 | −65 | −45 |
| Other[c] | −4 | −11 | −10 | 3 | 4 |
| Errors and asymmetries[d] | −9 | −28 | −62 | −108 | −94 |
| *Memorandum item* | | | | | |
| ECE region | −22 | −63 | −30 | −21 | −28 |
| *of which*: Market economies | −19 | −58 | −24 | −27 | −37 |
| Centrally planned economies[e] | −3 | −5 | −6 | 5 | 9 |

*Source*: ECE secretariat estimates for 1983, based on national sources and OECD, *Economic Outlook*, (34) Paris, December 1983. Current account data including net official transfers

[a] Western Europe other than southern Europe

[b] Greece, Portugal, Spain and Turkey

[c] Includes centrally planned economies, Yugoslavia, South Africa, Malta, Gibraltar, China and selected other Asian countries

[d] Historically, this discrepancy has been greatly influenced by the asymmetric recording of re-invested earnings on foreign direct investment and the recording of exports of ships to flags-of-convenience countries. In the last two years another important source of discrepancy has been an apparent systematic under-recording of investment income, receipts of transportation and remittances. Apparently, the bulk of the rise in the current account asymmetry is associated with transactions chiefly conducted by residents of the developed and oil exporting countries ("The World Current Account Discrepancy", OECD, *Economic Outlook*, *Occasional Studies*, July 1982, "Statistical Asymmetry in Global Current Account Balances", IMF, *World Economic Outlook*, Washington D.C., 1983)

[e] Current account in convertible currencies only

external debt burden of the non-oil developing countries increased substantially in 1981–1982, because of the expansion of total outstanding debt, maturities coming due, depressed export markets, and high levels of interest rates (both in nominal and real terms). Subsequently, the negotiation of rescheduling packages between creditors and many debtor countries, along with some decline in interest rates and a pick up in import demand in major markets, have eased somewhat the debt service burden of these countries. But a long-term solution of the debt problem depends upon a significant strengthening of developing countries' export earnings. For such an expansion to occur, a recovery in world demand and the easing of trade barriers set up by the developed countries will be needed.

*The outlook for 1984* compares favourably with the trade developments of the past few years, although some constraints may remain. The volume of world trade is forecast to grow by 5 to 6 per cent,[265] but this forecast may prove to be optimistic if recovery does not strengthen in the larger countries of western Europe. Imports into *North America* are forecast to increase by nearly 15 per cent; in *western Europe*, where growth is likely to continue being modest, import demand is expected to grow some 3–4 per cent. On the export side, while the performance of the United States is anticipated to remain relatively weak, that of western Europe is forecast to improve. This improvement evidently depends to a large extent on the confirmation of recovery in Europe and on an eventual increase in the developing countries' imports.[266] Scattered data for the fourth quarter of 1983 suggest that export growth in western Europe accelerated at the end of the year. If this is confirmed, it will lend support to optimism in the trade forecasts for 1984.

Owing to a further deterioration in the external position of the United States, the current account deficit of the developed market economies will probably widen in 1984. On the other hand, Japan's surplus is forecast to further expand. No major changes are foreseen in the external positions of the other market economies in the ECE region, although the position of France and of a number of smaller countries are expected to improve.

In the *centrally planned economies*, import demand is likely to increase if the recovery of economic growth, for which there is some evidence in 1983, continues to strengthen and in particular if investment increases after several slack years, as seems to be the case. As further improvements in the current account and reductions in external debt are likely to remain an important policy priority of many east European countries, and given that their access to external financing is still quite limited, the sustainability of this upswing will also depend to a significant degree on the recovery of world demand. In the case of the Soviet Union, the future course of world energy prices will also play a significant role in determining the strength of import demand.

The oil market may become tighter as the demand for oil is forecast to start growing gradually. The majority of *OPEC member* states, fearing over-production and price drops, are opposed to any lifting of OPEC's production ceiling; nevertheless, OPEC production has recently exceeded stated quotas. Under these circumstances, oil prices are expected to stabilize at their present level. Despite a foreseen upturn in exports of oil, imports into the oil exporting countries will probably grow slowly. The OPEC trade balance may improve slightly, as exports will probably increase somewhat faster than imports; but the current account deficit is unlikely to decline, due to an expected deterioration in the balance of services and transfers. However, there appears to be under-recording in this account and OPEC's actual external position may well be better than is indicated by the available statistics.[267]

Exports of *non-oil developing countries* are forecast to continue rising, and their terms of trade to improve further. Imports may still be affected by policies aimed at restraining domestic expenditure, though these countries' import demand is likely to increase slightly in 1984. Given these anticipated developments, the trade balances of the non-oil developing countries will continue to improve; but progress in reducing their current account deficits may be retarded if interest rates in the international capital markets remain at presently high levels. As most of these countries' external debt is denominated in dollars, a weakening of the US currency would also ease their external debt obligations.

### (ii) Recent developments in the international financial markets

This section is composed of two parts. The first gives an overview of recent developments in global financial flows. It also serves as a background for the second part in which east-west financial developments are treated in somewhat greater detail.

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[265] OECD, *Economic Outlook* (34), December 1983; Commission of the European Communities, *The Economic and Social Situation in the Community*, Communication from the Commission to the European Council, 1 March 1984. A number of independent forecasting institutes in western Europe assume a similar rate of growth in their forecasts, most of which date from early to mid-autumn.

[266] As mentioned in section 1.2, the direct impact of the United States' import demand on western Europe's total exports is smaller than has sometimes been assumed; and the indirect impact, via the developing countries, will remain constrained, in the immediate future, by the weakness of the external financial position of many of these countries (including OPEC members)

[267] This is probably also the case for a number of other developed market economies, in particular the United States and the United Kingdom

### (a) *Global changes in financial flows*

Activity in the international capital markets slowed sharply in 1983. Credit flows, as measured by the sum of *medium- and long-term international bank loans* and *external bond issues*, fell from $169 billion in 1982 to $138 billion in 1983. On a geographical basis, all country groups contributed to this outcome, especially the OECD countries which typically account for more than half of the funds taken up in these markets (see table 4.1.7). As had been expected, lending to the non-oil developing countries fell – the drop of $9 billion accounting for almost a third of the global decline.[268] Latin American borrowers were exclusively responsible for this contraction (especially Brazil, Mexico, Venezuela), while Asian and African developing countries actually increased their intake of funds. A slight increase in borrowing by eastern Europe and the Soviet Union halted the fall in their small share of world credit takings.

The contraction in overall lending stems exclusively from the shrinkage of international bank lending, the announced volume of which fell by $34 billion to a level of $64 billion in 1983. This development was offset to some extent by an increase in the issue of bonds, particularly in the last quarter of 1983, to about $74 billion for the entire year. Bond issues are floated almost exclusively by industrialized OECD countries and international institutions. An annual issue of bonds in excess of new bank lendings is rather unusual and has not occurred since the mid-1970s. Floating rate notes (FRN) in particular had become popular, largely because the continuing uncertainty about future interest rates has made them attractive to borrowers, while lenders and investors also find their marketability advantageous.[269]

A number of factors have contributed to the lower market activity in 1983, each of which is likely to have affected the individual groups of borrowers somewhat differently.[270] Undoubtedly the major cause of reduced credit takings by developing countries is the much publicized caution on the part of lenders and investors in the wake of the 1982 debt crisis. Their concern has been prolonged by the continuing debt-servicing difficulties of certain countries, including a number of major debtors. In contrast to the 1970s, "the game plan for banks now is not the absolute size or rate of growth of the balance sheet, but rather the quality, as measured by profits".[271] Aside from the effect that this change in bank strategy has had on overall financial market activity, it has also led to a widening of the spread in the lending terms available to different groups of borrowers. Most adversely affected in this regard have been those non-oil developing countries which have managed to raise eurocredits, but only at a cost of margins near 2 per cent over LIBOR, almost double of what they commanded in the first half of 1982, and generally shorter maturities.[272] In the meantime, more intense bank competi-

TABLE 4.1.7

**Funds raised on international markets, by type of borrower, 1981–1983**
(*Billions of US dollars*)

| | 1981 | 1982 | 1983 | 1982 | | 1983 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Total funds[a] | 195.2 | 169.3 | 137.9 | 41.4 | 36.4 | 41.4 | 37.2 | 30.0 | 29.4 |
| *of which*: | | | | | | | | | |
| OECD countries[a] | 134.2 | 112.3 | 88.2 | 29.0 | 24.7 | 24.7 | 25.2 | 17.0 | 21.3 |
| Developing countries | 50.4 | 43.7 | 32.7 | 8.4 | 8.6 | 13.6 | 6.5 | 8.3 | 4.4 |
| Oil exporters | 6.1 | 9.4 | 7.1 | 1.4 | 3.0 | 2.1 | 2.3 | 1.8 | 1.0 |
| Other developing | 44.3 | 34.3 | 25.6 | 7.0 | 5.6 | 11.5 | 4.2 | 6.5 | 3.4 |
| CMEA countries | 1.5 | 0.7 | 0.9 | 0.3 | — | — | 0.2 | 0.6 | 0.1 |
| International organizations and development institutions | 8.6 | 11.1 | 14.5 | 3.4 | 2.8 | 2.8 | 4.8 | 3.7 | 3.2 |
| *Memorandum items*: | | | | | | | | | |
| Total issues of bonds | 48.8 | 71.6 | 73.6 | 17.3 | 15.8 | 20.8 | 19.6 | 13.1 | 20.1 |
| International bank loans[a] | 146.4 | 97.7 | 64.3 | 24.1 | 20.7 | 20.5 | 17.6 | 16.9 | 9.3 |

*Source*: OECD, *Financial Statistics Monthly*, January 1984, Tables S.1 and S.2.

*Notes*: The data on external medium-term bank credits in this source cover two types of loans (a) medium-term eurocredits and (b) traditional foreign bank loans. The former include loans granted by commercial banks wholly or in part out of Eurocurrency funds that have been widely syndicated as well as publicized loans by one bank or a small group of banks. "Traditional" foreign bank loans relate to domestic-currency credits extended by a bank or group of banks in a given country to a non-resident borrower. In both cases data refer to loans that have been signed or completed as opposed to actual drawings.

Both types of credit include: (a) only loans of maturities of one year or more, and (b) new credits extended to debtors in conjunction with rescheduling and refinancing incorporating altogether new lending terms, and exclude: (a) all loans guaranteed by any export credit guarantee agency, and (b) general rescheduling or restructuring of commercial bank debt. See OECD, *Financial Market Trends*, November 1984, Technical Annex p.40.

[a] Includes $50.4 billion of international bank loan financing by United States corporations in 1981.

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[268] In 1983, almost one half the external borrowing by developing countries in the form of new medium- and long-term bank credits consisted of special new money loans arranged in conjunction with debt rescheduling and IMF-supported adjustment programmes. If these new money loans are excluded from the total of bank credits to the developing countries (which declined by around $11 billion in 1983) it can be estimated that the amount of so-called spontaneous, or regular market loans, shrank significantly more, perhaps by as much as $24 billion. Morgan Guaranty Trust, *World Financial Markets*, January 1984, p.2.

[269] This characteristic contrasts with bank loans which are kept on the institutions' balance sheets until maturity.

[270] Additional factors affecting east-west financial flows are discussed in section 4.1(ii)(b).

[271] C. Gewirtz, "In tight markets, banks are expected to look again at low-return loans", *International Herald Tribune*, 30 January 1984, p.11.

[272] Recently a number of heavily indebted countries, including Brazil and Mexico, managed to get lower margins on their loans than they did in 1983.

tion for loans to those industrialized countries considered highly creditworthy (whose demand for credit has in any case been weak) has increased, driving their borrowing costs down. In fact, many of this latter group have turned recently to the bond market where even more advantageous terms have become available.

The demand for credit on the part of Japanese and US companies remained strong in 1983. By contrast, demand for funds by west European corporations remained sluggish, possibly because of the combination of slow economic recovery and improved balance sheets. Certain governments continued to borrow internationally in order to finance budget deficits.

Finally, that part of borrowing activity related to trade, as measured in US dollar terms, has been affected adversely owing to the declining US dollar value of world trade.

The global slowdown in the volume of borrowing and lending is also reflected in changes in the total *liabilities* of the world vis-à-vis BIS reporting banks (table 4.1.8).[273] Liabilities rose by some $52 billion (at constant exchange rates) in the first three quarters of 1983, down by almost two-thirds from the rate in 1982. The reduction in the rate of new lending was shared in roughly similar proportions by the groups of countries composing the BIS reporting area and those outside of it.

On a regional basis, reduced lending to the outside area groups resulted from lower borrowing by all sub-regions, but in particular by those developed countries whose banks do not report to the BIS.[274] After picking up in the second quarter, largely owing to increased lending to non-oil developing countries (but not to Latin America), lending to the groups outside the BIS reporting area slackened again in the third quarter. In a rather unusual regional development the liabilities of eastern Europe and the Soviet Union declined for the second consecutive year (by some $2.4 billion), but this drop was significantly smaller than that of the same period in 1982.

OPEC members were again mainly responsible for the fall in the *assets* of the outside area group in the first three quarters of 1983 (table 4.1.8). After having drawn down assets by over $15 billion in the first half, OPEC members rebuilt them in the third quarter to the extent of $2.2 billion.[275] The other developing countries (including Latin America) and eastern Europe and the Soviet Union had managed to increase deposits throughout the period. For the eastern countries and Latin America this represents a sharp reversal from the reductions in the same period in 1982.

The data on changes in *net liabilities* in table 4.1.8 provide an incomplete measure of the net flow of financial resources between banks comprising the BIS reporting area and other regions. These data reflect changes in the liabilities of the outside area regions vis-à-vis western banks as well as the potentially important changes in the assets of these regions. In the first three quarters of 1982, the groups of countries outside the BIS reporting area experienced an increase in the net inflow of funds ($38 billion compared to $35 billion in the same period in 1981) despite the slowdown in lending because $7 billion in deposits was drawn upon. In the first three quarters of 1983, by contrast, a further depletion of assets by almost the same magnitude was insufficient to offset a much faster decline in the growth of liabilities, which increased by only $10 billion in this period. The net result was a very sharp slowdown in net banking flows from the BIS reporting area to the other regions combined – from $38 billion in the first three quarters of 1982 down to $17 billion in the same period in 1983. All country groups comprising the outside area contributed to this outcome. Eastern Europe and the Soviet Union was the only net provider of funds (about $3 billion) to the international banking system in both periods. In the second quarter of 1983, Latin America also provided more funds to the banking system than it obtained and this became the case for the outside area combined in the third quarter. These recent developments in the net liabilities positions of most outside area country groups (i.e. the slowdown in the growth of net liabilities and the subsequent decline) reflect the considerable adjustment that has occurred in their external balances.

During the past two years, events in the financial sphere have often had profound effects on the domestic economies and external accounts of groups of debtor countries and on the accumulation of external debt.[276] In eastern Europe, which together with the Soviet Union accounts for a relatively small fraction of total global debt (see below), external adjustment started already in the first part of 1982, or possibly earlier, owing to the reduced availability of credits and in some cases, as a result of a decision to stabilize the level of indebtedness.[277] By contrast, sharp adjustment in the developing countries did not start in earnest until the second half of 1982 when there was a marked slowdown in the inflow of funds from private sources in the wake of the global debt crises.

In 1983 the adjustment in the external payments position of these countries owed, on the one hand, to the adjustment programmes[278] implemented by some countries, which reduced the need for foreign financing, and on the other hand, to the situation whereby the reduced availability of foreign credits necessitated forced reductions in the level of imports. Estimates made several months ago by the OECD, when the total capital flows to the non-oil developing countries in 1983 could only be projected, suggest that their combined current account deficit could decline further by $20 billion in 1983 to a level of $45 billion (see section 4.1(i)).

Regardless of the final current account figures, it is clear that several of the fears voiced subsequent to the unfolding of the developing country debt crisis have been to some extent realized. Bank lending to the developing countries has slowed; in response they have taken steps toward external adjustment largely through the reduction of imports, although improvements in their terms of trade and the expansion of foreign demand have helped somewhat. On the whole, however, the

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[273] The BIS data, upon which the following discussion is based, differ in a number of important ways from the OECD data on international medium- and long-term bank loans in table 4.1.7 (also see the footnote to that table). Among other differences between the two sets of data, the BIS series include:
(a) loans of all maturities (including unpublicized loans)
(b) some guaranteed loans
(c) rescheduled debt as well as new loans
(d) credits actually drawn upon.
Whereas the OECD data are reported on a gross basis (i.e. they do not reflect repayments of outstanding bonds and bank credits), the BIS data provide information on outstanding liabilities (i.e. new credit drawings are added to the existing stock of debt less repayments). Thus changes in liabilities provide an incomplete measure of the volume of net private credit flows available for balance of payments support and other uses

[274] In this discussion reference made to outside area groups excludes BIS bank positions vis-à-vis offshore banking centres.

[275] According to the BIS, the expansion of OPEC deposits in the third quarter can be attributed partly to a seasonal expansion in oil sales and a contraction in OPEC members' merchandise imports. The new deposits appear to have come from low-absorbing oil producers, while the high absorbers reduced their deposits further. BIS, *International Banking Developments, Third Quarter*, January 1984, p.8

[276] Also see section 1.1.

[277] Eastern adjustment vis-à-vis the market economies is discussed in sections 4.1(ii)(b) and 4.4

[278] Those adjustment programmes involving a high degree of international co-operation have received much attention and need not be discussed here. Basically they included close collaboration between the individual countries, private banks, creditor governments, the IMF and in some cases the BIS

TABLE 4.1.8

**Changes in liabilities and assets of country groups at banks reporting to the BIS, 1981–1983**
*(Billions of US dollars, constant end-of-quarter exchange rates)*

| | | | Q1–Q3 | | | 1983 | | |
|---|---|---|---|---|---|---|---|---|
| | 1981 | 1982 | 1981 | 1982 | 1983 | Q1 | Q2 | Q3 |
| | | | | *Changes in liabilities* | | | | |
| Total | 265.0 | 175.4 | 165.1 | 141.2 | 51.5 | 17.4 | 5.0 | 29.1 |
| Outside area[a] | 65.7 | 39.2 | 40.8 | 30.6 | 10.4 | 1.1 | 6.5 | 2.8 |
| Developed countries | 16.8 | 15.9 | 12.3 | 12.4 | 2.1 | 0.3 | 1.0 | 0.8 |
| OPEC countries | 4.2 | 8.2 | 1.4 | 7.7 | 2.3 | 0.1 | 0.8 | 1.4 |
| Other developing countries | 39.9 | 19.8 | 23.1 | 14.7 | 8.4 | 2.1 | 4.6 | 1.7 |
| Latin America | 30.5 | 12.2 | 18.1 | 13.1 | 5.8 | 2.7 | 1.4 | 1.7 |
| Eastern Europe and the Soviet Union | 4.8 | −4.7 | 4.0 | −4.2 | −2.4 | −1.4 | 0.1 | −1.1 |
| Offshore centres | 50.0 | 32.0 | 38.7 | 35.9 | 9.4 | 7.3 | 0.7 | 1.4 |
| Reporting area | 142.4 | 95.4 | 79.2 | 66.8 | 23.1 | 7.6 | −4.4 | 19.9 |
| Unallocated | 7.0 | 8.5 | 6.5 | 7.7 | 8.7 | 1.4 | 2.3 | 5.0 |
| | | | | *Changes in assets* | | | | |
| Total | 237.7 | 125.8 | 146.2 | 107.6 | 49.1 | 7.9 | 8.8 | 32.4 |
| Outside area[a] | 16.5 | −11.5 | 6.1 | −7.0 | −6.5 | −8.5 | −4.5 | 6.5 |
| Developed countries | 3.8 | −0.1 | 2.4 | 2.3 | −0.6 | −0.3 | −1.1 | 0.8 |
| OPEC countries | 3.2 | −18.3 | 6.0 | −10.4 | −13.0 | −8.1 | −7.1 | 2.2 |
| Other developing countries | 9.4 | 4.9 | 1.4 | 2.8 | 6.4 | −0.2 | 3.2 | 3.4 |
| Latin America | 4.8 | −1.8 | 0.6 | −1.6 | 4.9 | −0.5 | 2.5 | 2.9 |
| Eastern Europe and the Soviet Union | 0.1 | 2.0 | −3.7 | −1.7 | 0.7 | 0.1 | 0.5 | 0.1 |
| Offshore centres | 55.1 | 31.9 | 34.9 | 28.5 | 20.1 | 13.2 | — | 6.9 |
| Reporting area | 154.9 | 97.5 | 98.4 | 77.6 | 31.6 | 6.8 | 9.4 | 15.4 |
| Unallocated | 11.3 | 8.1 | 7.0 | 8.7 | 3.9 | −3.6 | 3.9 | 3.6 |
| | | | | *Changes in net liabilities* | | | | |
| Total | 27.3 | 49.6 | 18.9 | 33.6 | 2.4 | 9.5 | −3.8 | −3.3 |
| Outside area[a] | 49.2 | 50.7 | 34.7 | 37.6 | 16.9 | 9.6 | 11.0 | −3.7 |
| Developed countries | 13.0 | 16.0 | 9.9 | 10.1 | 2.7 | 0.6 | 2.1 | — |
| OPEC countries | 1.0 | 26.5 | −4.6 | 18.1 | 15.3 | 8.2 | 7.9 | −0.8 |
| Other developing countries | 30.5 | 14.9 | 21.7 | 11.9 | 2.0 | 2.3 | 1.4 | −1.7 |
| Latin America | 25.7 | 14.0 | 17.5 | 14.7 | 0.9 | 3.2 | −1.1 | −1.2 |
| Eastern Europe and the Soviet Union | 4.7 | −6.7 | 7.7 | −2.5 | −3.1 | −1.5 | −0.4 | −1.2 |
| Offshore centres | −5.1 | 0.1 | 3.8 | 7.4 | −10.7 | −5.9 | 0.7 | −5.5 |
| Reporting area | −12.5 | −2.1 | −19.2 | −10.8 | −8.5 | 0.8 | −13.8 | 4.5 |
| Unallocated | −4.3 | 0.4 | −0.5 | −1.0 | 4.8 | 5.0 | −1.6 | 1.4 |

*Source*: Bank for International Settlements, *International Banking Developments*, various issues.
[a] Excluding offshore centres.

global deflationary impact of these policies has sapped the strength of the fragile economic recovery in the industrialized countries. If the imports of the developing countries had remained at their 1982 level, the industrialized countries would have exported more and achieved economic growth of 3 per cent in 1983 instead of the 2.25 per cent they actually managed.[279]

The contraction in the non-oil developing country current account deficit, along with changes in financing patterns, have brought significant changes in the composition and growth rate of their external debt. Total indebtedness could increase from an estimated $612 billion at the end of 1982 to some $650–$660 billion at the end of 1983, the $40–$50 billion increment representing a considerably smaller augmentation than the approximately $80 billion changes in both 1980 and 1981 (see table 4.1.9). Again these figures depend on, among other factors, the actual level of private lending which took place in 1983. The debt service burden of the non-oil developing countries, as measured by the debt service ratio, was also expected to decline in 1983, owing to both lower interest rates and to the rescheduling of debt coming due.[280] Moreover, a substantial improvement in the maturity structure of external debt had been achieved largely through the consolidation of almost $20 billion in short-term debts due in 1983 into medium-term credits.[281]

Despite the considerable progress that has been achieved in this regard, there have also been a number of unfavourable aspects. For example, the direction of the net transfer of resources between developed and developing countries, an important growth factor in the latter, has also changed owing to the recent trends in bank lending. Whereas in 1981 private sources (mainly banks) in the developed world had made a net transfer of $16 billion (net medium- and long-term lending and net interest) to the less developed countries, in 1982 the direction of flow reversed, so that banks of the developed world received $7 billion more than they lent. In 1983 this "negative transfer" reached an estimated $21 billion.[282]

### (b) *East-west financial developments in 1982–1983*

Against the preceding background of global financial developments, the trends in east-west financial developments can be examined. Data for the third quarter of 1983 indicate

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[279] From statement of A.W. Clausen, President of the World Bank, at the European Management Forum quoted in the *Financial Times*, 27 January 1984, p.2.

[280] IMF projections made in the first half of 1983 showed the debt service ratio of the non-oil developing countries declining from 24 per cent in 1982 to 19 per cent in 1983.

[281] From a speech by Mr. J. de Larosière, Managing Director of the IMF, and reported in the *Financial Times*, 2 February 1984, p.2.

[282] Clausen, *loc.cit.*, p.2.

TABLE 4.1.9

**Non-oil developing countries: gross external debt, debt service and other financial indicators, 1978–1982**
*(Billions of US dollars and percentages)*

| | 1978 | 1979 | 1980 | 1981 | 1982 |
|---|---|---|---|---|---|
| Total debt outstanding[a] | 336.3 | 396.9 | 474.0 | 555.0 | 612.4 |
| *as a percentage of:* | | | | | |
| GDP[b] | 28.5 | 27.5 | 27.6 | 31.0 | 34.7 |
| Exports of goods and services[b] | 130.2 | 119.2 | 112.9 | 124.9 | 143.3 |
| Debt service payments | 50.3 | 65.0 | 76.2 | 94.7 | 107.1 |
| *of which:* | | | | | |
| Interest payments | 19.4 | 28.0 | 40.4 | 55.1 | 59.2 |
| Amortization[c] | 30.9 | 36.9 | 35.8 | 39.7 | 47.9 |
| Debt service ratio[d] | 19.0 | 19.0 | 17.6 | 20.4 | 23.9 |
| *of which:* | | | | | |
| Interest payments | 7.3 | 8.2 | 9.3 | 11.9 | 13.2 |
| Amortization[c] | 11.7 | 10.8 | 8.3 | 8.6 | 10.7 |
| Ratio of reserves to imports of goods and services[e] | 25.9 | 22.3 | 17.5 | 16.2 | 16.3 |

*Source:* IMF, *World Economic Outlook*, Washington D.C., May 1983, Tables 30, 32, 33, 35.
[a] Including short and long term debt.
[b] Ratio of year end-debt to GDP or exports of year indicated.
[c] On long term debt only. Estimates for the period up to 1981 reflect actual amortization payments. The estimates for 1982 and 1983 reflect scheduled payments, but are modified to take account of the rescheduling agreements of 1982 and early 1983.
[d] Payments (interest, amortization or both) as percentages of exports of goods and services.
[e] Ratio of year-end reserves to imports during the year indicated. Reserves include official holdings of gold valued at SDR 35 an ounce.

that the tendencies prevailing in the first half of the year and analysed earlier by the ECE secretariat continued.[283] In general, there has been a further amelioration in the overall eastern external financial position. The buildup of eastern assets in BIS banks to record levels, a further reduction in liabilities and net debt (and thereby an improvement in a selection of other financial indicators) are a reflection of the convertible-currency current-account surplus first registered by the European centrally planned economies in 1982 and its enlargement in 1983 (see section 4.4). Moreover, there have been indications of a reopening of the Eurocurrency market for certain eastern countries.

The last two years have witnessed a dramatic turnaround in east-west financial flows – the eastern countries changing from their traditional position as net takers of funds in the international financial system to net suppliers. This development is clearly seen in terms of eastern *net liabilities* vis-à-vis western banks,[284] the level of which had risen throughout the 1970s to 1981. However, it fell sharply in 1982 – by $6.7 billion ($8.6 billion at current exchange rates):[285] a $11.2 billion reversal in the direction of financial flows in a single year (table 4.1.10, panel A). It may be noted that gaps between financial flows adjusted for exchange rate changes and those measured at current exchange rates reflect the effects of US dollar appreciation against the other currencies in which a significant part of eastern assets and liabilities are denominated. Dollar appreciation reduced liabilities in US dollar terms throughout 1983.

During the first three quarters of 1983 eastern net liabilities dropped further by some $3.1 billion ($4.8 billion at current exchange rates). More than two thirds of this reduction (i.e. $2.4 billion) resulted from a fall in liabilities[286] and the remainder was due to a rise in assets. Overall, the cumulative decline in net liabilities since the end of 1981 has amounted to almost $10 billion ($13.4 billion at current exchange rates). Apart from representing a change in the direction of net resource transfer from eastward to westward, these banks flows also indicate a reduction in eastern total net debt to the west (see below), of which they constitute a part.

### *Indicators of the eastern asset position*

During 1983, the *asset* position of the eastern countries continued to improve, reaching a historically high level of $16.5 billion in the third quarter (table 4.1.11).[287] In *eastern Europe*, the rebuilding of assets started with a sharp recovery in the fourth quarter of 1982 (from an unusually low level) and continued throughout the first three quarters of 1983 reaching a level of $7.1 billion. Although all countries of this group contributed to this outcome, the higher total figure resulted largely from the improved positions of Czechoslovakia and the $1.0 billion increase in deposits of the German Democratic Republic. The additions in assets of Bulgaria, Romania and Poland were smaller, but their asset positions surpassed previous levels (the former two) or almost equalled past peaks (Poland).

The *Soviet Union's* assets peaked at a level of some $10 billion in the early part of 1983 and have remained at high levels, particularly if the seasonal pattern is taken into account. However, in contrast to the normal seasonal upswing in the third quarter ($0.7–$1.7 billion, observed in the period 1979–1982), Soviet deposits at western banks fell by $1.0 billion in the third quarter of 1983, implying a shortfall of $1.7–$2.7 billion relative to the historical pattern.

The improvement in the eastern asset position has been more pronounced if viewed in terms of the levels and changes in *liquidity* and *assets-liabilities ratios*. The *liquidity ratio*, as used here, is defined as eastern assets held at BIS reporting banks as a percentage of annual imports from market economies.[288] Presumably, the higher the liquidity ratio of a country, the greater its capacity to withstand adverse external developments, pay for imports and service debt. From the low point of

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[283] See *Economic Bulletin for Europe*, vol.35, No.4, *loc.cit.*, section 2.5.

[284] Much of the analysis in this section is based upon data published by the Bank for International Settlements. Although these data reflect an important part of all eastern assets and liabilities vis-à-vis the market economies (in convertible currencies) and are extremely useful for that reason, there are nevertheless certain lacunae, particularly as regards eastern liabilities, that should be kept in mind. The BIS data do not take into account: liabilities (commercial and government-backed) and assets vis-à-vis banks in countries outside the BIS reporting system, all government-to-government credits (central banks, governments, official credit agencies), credits provided by international financial institutions, all buyers' and suppliers' credits held outside commercial banks in the reporting area, and, in some cases, even if held by these institutions. Finally, the BIS data exclude the position of the Federal Republic of Germany's banks vis-à-vis the German Democratic Republic.

[285] Unless otherwise stated all flows have been adjusted for exchange rate changes.

[286] These data may *overstate* the reduction in outstanding *liabilities* (commercial and government-backed) for two reasons. First, the change in liabilities may reflect the reimbursement of officially-guaranteed credits not settled as maturities come due by official western credit insurance agencies. These credits would then be transferred from the balance sheets of commercial banks, which report to the BIS, to those of official financial institutions, which do not. Second, liabilities could also have been reduced for reasons other than repayment if commercial banks had written down the value of outstanding non-guaranteed loans because of any non-payment.

[287] The eastern asset position is more favourable if seasonal variations are taken into account. See *Economic Bulletin for Europe*, vol.35, No.4, *loc.cit.*

[288] Assets held at BIS reporting banks do not, of course, reflect the full range of international reserves and thus give only an approximate measure of liquidity change. Those countries for which more complete data on reserves are available (Hungary, Poland and Romania) show figures which are higher than BIS assets, sometimes significantly so.

TABLE 4.1.10

### Eastern Europe and the Soviet Union: changes in assets and liabilities at the BIS reporting banks, 1978–1983

*(Billions of US dollars)*

Panel A

| | 1978 | 1979 | 1980 | 1981 | 1982 | 1982 (Q1–Q3) | 1983 (Q1–Q3) |
|---|---|---|---|---|---|---|---|
| *Changes in:* | *At current exchange rates* | | | | | | |
| Assets | 2.3 | 4.8 | 0.2 | −0.5 | 1.2 | −2.9 | 0.1 |
| Liabilities | 9.2 | 8.3 | 3.9 | 0.9 | −7.4 | −8.6 | −4.7 |
| Net liabilities[a] | 7.0 | 3.5 | 3.7 | 1.5 | −8.6 | −5.7 | −4.8 |
| *Changes in:* | *At constant end-of-quarter exchange rates* | | | | | | |
| Assets | 1.6 | 4.6 | 0.8 | 0.2 | 2.0 | −1.7 | 0.7 |
| Liabilities | 5.6 | 7.1 | 7.0 | 4.7 | −4.7 | −4.2 | −2.4 |
| Net liabilities[a] | 4.0 | 2.5 | 6.2 | 4.5 | −6.7 | −2.5 | −3.1 |

Panel B

| | 1982 | | | 1983 (Q1–Q3) | | |
|---|---|---|---|---|---|---|
| | Assets | Liabilities | Net Liabilities | Assets | Liabilities | Net Liabilities |
| *Changes by country*[b] | *At constant end-of-quarter exchange rates* | | | | | |
| Bulgaria | 0.2 | — | −0.2 | 0.1 | −0.3 | −0.3 |
| Czechoslovakia | −0.3 | −0.3 | −0.1 | 0.3 | — | −0.3 |
| German Dem. Rep. | −0.2 | −1.1 | −0.9 | 1.0 | −0.2 | −1.3 |
| Hungary | −0.2 | −0.8 | −0.6 | 0.1 | −0.1 | −0.2 |
| Poland | 0.3 | −0.6 | −0.9 | 0.1 | −1.8 | −1.9 |
| Romania | — | −0.5 | −0.5 | 0.1 | −0.2 | −0.3 |
| Eastern Europe | −0.1 | −3.4 | −3.2 | 1.8 | −2.6 | −4.4 |
| Soviet Union | 2.0 | −1.0 | −3.0 | −1.2 | 0.3 | 1.5 |
| Residual | 0.1 | −0.3 | −0.5 | 0.1 | −0.1 | −0.3 |
| Total[a] | 2.0 | −4.7 | −6.7 | 0.7 | −2.4 | −3.1 |

*Source*: Bank for International Settlements, *Fifty-Second Annual Report*, Basle, June 1982; and *International Banking Developments – third quarter 1983*, January 1984. Data exclude positions of the German Democratic Republic vis-à-vis reporting banks in the Federal Republic of Germany.

Net liabilities: a negative sign indicates a decline in eastern net liabilities and a net transfer of resources to the west.

[a] Total also includes Albania and the "residual"

[b] Country data are ECE secretariat estimates using the BIS changes in total eastern assets and liabilities at constant exchange rates and distributing them by country on the assumption that each country's assets and liabilities reflect the same currency structure as the totals

TABLE 4.1.11

### Eastern Europe and the Soviet Union: assets in BIS reporting banks, 1979–1983

*(Billions of US dollars; end-of-period)*

| | 1979 (Dec.) | 1980 (Dec.) | 1981 (Dec.) | 1982 (Sept.) | 1982 (Dec.) | 1983 (Sept.) |
|---|---|---|---|---|---|---|
| Bulgaria | 0.71 | 0.77 | 0.81 | 0.88 | 0.96 | 1.01 |
| Czechoslovakia | 1.00 | 1.26 | 1.07 | 0.63 | 0.73 | 1.04 |
| German Dem.Rep. | 1.90 | 2.04 | 2.15 | 1.24 | 1.88 | 2.83 |
| Hungary | 1.17 | 1.38 | 0.90 | 0.28 | 0.73 | 0.81 |
| Poland | 1.10 | 0.62 | 0.76 | 0.91 | 0.97 | 1.06 |
| Romania | 0.30 | 0.26 | 0.30 | 0.23 | 0.30 | 0.37 |
| Eastern Europe | 6.17 | 6.33 | 5.99 | 4.18 | 5.56 | 7.11 |
| Soviet Union | 8.62 | 8.57 | 8.45 | 7.47 | 10.03 | 8.53 |
| Eastern Europe and the Soviet Union[a] | 15.49 | 15.68 | 15.15 | 12.26 | 16.39 | 16.50 |

*Source*: BIS, *op.cit*

[a] Includes Albania and "residual"

16 per cent at the end of September 1982 (barely two months' imports), the liquidity ratio for *eastern Europe* rose to 27 per cent (more than three months' imports) at the end of September 1983 (table 4.1.12).[289] All countries contributed to the 1983 outcome. In terms of percentage points, particularly large gains were made by the German Democratic Republic (whose ratio increased to the equivalent of 4.5 months' imports) and by Hungary. Although Romania's ratio is still relatively low, it has always tended to be on the low side and the current level represents a considerable improvement. This indicator also suggests an improvement in the asset position for the *Soviet Union*.

TABLE 4.1.12

**Liquidity ratios of eastern Europe and the Soviet Union, 1979–1983**
*(Per cent, end-of-period)*

| | 1979 | 1980 | 1981 | 1982 (Sept.) | 1982 | 1983 (Sept.) |
|---|---|---|---|---|---|---|
| Bulgaria | 42 | 36 | 29 | 33 | 36 | 41 |
| Czechoslovakia | 22 | 25 | 23 | 15 | 17 | 25 |
| German Dem.Rep. | 31 | 28 | 30 | 18 | 28 | 37 |
| Hungary | 28 | 29 | 19 | 6 | 17 | 18 |
| Poland | 14 | 8 | 13 | 23 | 24 | 26 |
| Romania | 5 | 3 | 4 | 5 | 6 | 9 |
| Eastern Europe | 20 | 17 | 19 | 16 | 21 | 27 |
| Soviet Union | 32 | 25 | 21 | 19 | 26 | 22 |

*Source:* ECE secretariat estimates. Liquidity ratio: ratio of assets at BIS reporting banks to imports from (developed and developing) market economies. Imports used for the calculation of the ratios for 1983 are extrapolations assuming a continuation of January-September trends. Also see table 4.1.9 for the reserve import ratios of the non-oil developing countries

It might also be noted that although eastern Europe's liquidity ratio started to improve already in 1981, this was initially the consequence of a sharp contraction in imports which exceeded a small reduction in assets. By contrast, during the year ending September 1983 increasing assets also played an important role in this regard.

The *assets-liabilities ratio* tends to measure the same aspect of financial capacity as the liquidity ratio, but perhaps also reflects more directly the vulnerability of a country to changes in banks' perceptions of its financial position. The ratio is the percentage of liabilities that could be paid off relying only on assets. The pattern of development of this indicator has been much the same as that of the liquidity ratio except that it has not improved as quickly, owing to the slower fall in liabilities (see below) as compared to imports. However, for that reason it is interesting to note that this ratio is now also high by past standards for both eastern Europe and the Soviet Union.[290]

The picture developed from the financial indicators presented above shows that not only have eastern assets been rebuilt in a very short time to relatively high levels in US dollar terms, but even more so if measured in terms of certain financial ratios. Two possible reasons can be advanced to explain this development, the importance of which is likely to vary from country to country. First, the transactions component of the demand for international assets is known to have risen for certain countries during this period, owing to more restricted access to short-term trade finance. However, this factor may have become less important recently as reports from the banking sector indicate that trade credits to the east have started to pick up again (see below). Second, there is the greater role which is likely to have been attributed to the precautionary component of the demand for reserves. Such a policy could be explained by the experiences of 1981–1982 (discussed below) which forced several countries to take sudden adjustment measures and revealed their vulnerability to a rapid withdrawal of short-term deposits. Given the conservative management of external finances by most eastern countries in the past, it may be argued that the consolidation of asset positions would be considered an important objective.

### *Eastern liabilities and new borrowing*

In light of the credit squeeze in the second half of 1981 and in 1982, the subsequent development of new lending to eastern Europe and the Soviet Union has been of considerable interest. Unfortunately, it is generally not possible to deduce the volume of new borrowing from changes in the levels of country liabilities vis-à-vis BIS reporting banks since repayments are not covered by the BIS data and are otherwise generally not known for the eastern countries. Clearly, if liabilities rose, then new credits exceeded repayments. However, a more precise statement about the volume of borrowing in such a situation cannot be made. A similar problem of interpretation arises if a country's liabilities have been falling, as has been the case for eastern Europe. All that can be deduced is that repayments of principal exceeded new credits or that no new funds at all were drawn.[291]

Regarding this problem of identifying the level of all new credit takings, data on publicized medium- and long-term bank loans (table 4.1.13) are of limited help since they account only for longer maturities. They show clearly that the volume of eastern borrowing in this market has slowed drastically (the publicized credit data and the BIS data are consistent in this regard), the only countries having raised funds in 1983 being Czechoslovakia, Hungary and the German Democratic Republic.[292] There are indications, however, that the major part of recent eastern borrowing (aside from official and officially guaranteed credits) has been in the form of relatively short-term bank-to-bank and trade credits for which little information is available. An unknown part of these borrowings are reflected in the BIS data.

Against this background, recent changes in the levels of eastern *liabilities* at banks reporting to the BIS can be examined. At constant exchange rates eastern liabilities fell by some $2.4 billion in the first three quarters of 1983, reflecting a substantially slower annual pace than the $4.2 billion reduction in the same period in 1982 (table 4.1.10). Very roughly, the $2.4 billion decline is the outcome of a reduction in *east European* liabilities of $2.6 billion and an increase in those of the *Soviet Union* by some $0.3 billion. Underlying the latter figure is a surge in borrowing in the first half of the year which raised liabilities by some $0.7 billion (adjusted for exchange rate changes), but which was partially offset in the third quarter.

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[289] By comparison, in the years 1979–1981 the liquidity ratio was never more than 20 per cent.

[290] Quarterly assets-liabilities ratios for eastern Europe and the Soviet Union, 1978–1983, have been presented in the *Economic Bulletin for Europe*, vol.35, No.4, *loc.cit.*, table 2.10. It should be noted that the Soviet Union's liabilities include those of the CMEA banks, and that the data for all eastern countries exclude official debt held by western institutions outside the BIS reporting system.

[291] Changes in exchange rates also complicate the interpretation of the data for individual countries. In the past two years the decline in eastern liabilities in US dollar terms has been reinforced by the appreciation of the US dollar. Since the currency composition of most eastern countries is not known, any estimation of changes in liabilities removing exchange rate variations must be considered only rough approximation (as in table 4.1.10, panel B)

[292] Also see note to table 4.1.7

TABLE 4.1.13

**Eastern Europe and the Soviet Union: international medium- and long-term bank borrowing, 1979–1983**
(*In millions of US dollars*)

| | 1979 | 1980 | 1981 | 1982 | 1983 | 1983 | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | Q1-Q2[a] | Q3 | Q4 |
| Bulgaria | 202 | — | — | — | — | — | — | — |
| Czechoslovakia | 450 | 475 | — | — | 50 | — | 50 | — |
| German Dem. Rep. | 656 | 397 | 497 | 69 | 386 | — | 386 | — |
| Hungary | 950 | 550 | 550 | 483 | 456 | 200 | 185 | 71 |
| Poland | 861 | 736 | — | — | — | — | — | — |
| Romania | 280 | 458 | 337 | — | — | — | — | — |
| Eastern Europe | 3 399 | 2 616 | 1 384 | 552 | 892 | 200 | 621 | 71 |
| Soviet Union | 320 | 50 | 25 | 153 | — | — | — | — |
| CMEA Banks | 1 025 | — | 100 | — | — | — | — | — |
| Eastern Europe and the Soviet Union | 4 744 | 2 666 | 1 509 | 704 | 892 | 200 | 621 | 71 |

*Source*: OECD, *Financial Statistics Monthly*, various issues, table I.31.
[a] No loans were made in the first quarter of 1983.

A considerable part of the fall in *east European* liabilities is attributable to Poland. As noted, this may reflect, in part, the writing down and/or transfer of delinquent debt to guarantor institutions. Other east European countries experienced small declines in liabilities, the exception being Czechoslovakia which borrowed enough earlier in the year to maintain its liabilities at a constant level. The German Democratic Republic increased its liabilities sharply in the third quarter, presumably as a result of the DM 1 billion credit negotiated with the Federal Republic of Germany. It is also possible that in one quarter Bulgaria and Romania borrowed in excess of repayments.

Czechoslovakia reduced net liabilities exclusively through additions to assets. The net liabilities of the German Democratic Republic were largely reduced by the same means, but a contraction in gross liabilities also played a role.

*Undisbursed credit commitments* of BIS reporting banks to the eastern countries are an indicator of the volume of drawings (including some guaranteed credits) which it will be possible to make in the future. Data on these commitments as of end-June 1983 indicate that the decline observed over the past several years continued. Only for Bulgaria, Czechoslovakia and the Soviet Union have the levels remained relatively unchanged.[293]

In early February, the Soviet Foreign Trade Bank raised a $150 million eurocredit.[294] According to press reports, western bankers indicate that "short-term trade credits to eastern Europe have become more plentiful and less constricted as demands for collateral are easing. Poland also is now obtaining fresh unsecured trade credits."[295] Along with the syndicated loans negotiated by Czechoslovakia and Hungary in 1983, these developments suggest a further reopening to the credit markets for most eastern countries.

### *Changes in the interest payments burden and net debt*

Owing to the fall in interest rates and the reduction of net indebtedness, the interest burden declined in 1982 for all countries except Poland and Romania and is expected to have fallen further in 1983. This can be measured by the ratio of estimated net interest payments to eastern exports to the market economies (*interest payments ratio*).[296] A decline in this ratio indicates that a higher fraction of export revenues is available for the purchase of imports and/or for reducing net debt (table 4.1.14).

TABLE 4.1.14

**Eastern Europe and the Soviet Union: net interest payments ratio, 1979–1983**
(*Per cent*)

| | Eastern Europe | Soviet Union |
|---|---|---|
| 1979 | 13.9 | 3.4 |
| 1980 | 16.8 | 2.9 |
| 1981 | 22.0 | 3.3 |
| 1982 | 20.2 | 2.8 |
| 1983[a] | 15.4 | 2.3 |

*Source*: ECE secretariat estimates
[a] Preliminary estimate

For the reasons mentioned above, there should also be a tendency for the overall burden of debt servicing (measured by the *debt service ratio*) to be lightening. In addition to interest payments, this ratio reflects repayments of medium- and long-term debt coming due. However, data on maturities are not generally available for most eastern countries. The ratio is affected adversely by a bunching of maturities, as is reportedly in store for at least one eastern country in 1984,[297] or favourably through the rescheduling of repayments as in the case of Poland and Romania.

The combined *net indebtedness* of eastern Europe and the Soviet Union vis-à-vis the market economies continued to decline in 1983, falling by an estimated $7 billion to perhaps

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[293] Based on data in BIS, *The Maturity Distribution of International Bank Lending*, first half 1983, December 1983. A historical series for undisbursed credit commitments in terms of US dollars and as a percentage of liabilities has been presented in the *Economic Bulletin for Europe*, vol.35, No.4, Appendix Table 2.9.

[294] The loan is to bear a margin of 5/8 per cent over Eurocurrency interest rates and the maturity has been set at five years with repayments beginning after a grace period of four years. *Financial Times*, 6 February 1984, p.15.

[295] Gewirtz, *loc.cit*

[296] Estimates for the individual eastern countries are given in the *Economic Bulletin for Europe*, vol.35, No.4, *loc.cit.*, Appendix Table 2.10.

[297] Western press reports indicate that the German Democratic Republic has some $3 billion in repayments coming due.

$60 billion at the end of 1983.[298] It should be noted that while changes in the debt outstanding can be estimated with a fair degree of confidence, there remains considerable uncertainty about its absolute level since much of it is held outside of institutions included in the public reporting systems and only some of the eastern countries regularly report on external debt.[299] As in recent years, the appreciation of the US dollar against the other currencies in which a considerable fraction of eastern debt is denominated played a large role in determining this outcome. Some $4 billion of the total $7 billion decline can be linked to this factor, the remainder being attributable to convertible currency current account surpluses recorded by most eastern countries in 1983.

### *Factors influencing east-west borrowing and lending*

A close examination of the financial relationships between east and west – characterized by a low level of eastern commercial borrowing largely in the form of short-term bank-to-bank and short-term trade credits – reveals that some significant changes have occurred during the past two years. Despite the fact that new lending has remained low, the situation, nevertheless, appears to differ from that in the second half of 1981 and the first half of 1982 when new borrowing initially contracted. It will be remembered that a chain of events starting with the external financial difficulties of Poland and Romania in 1981 and the subsequent deterioration of the international political climate led to a near cessation of commercial bank lending to the east and, in certain cases, to withdrawals of funds on deposit in eastern banks. As a consequence some east European countries found it necessary to adjust their external accounts in order to meet their debt service obligations (see section 4.4).[300] At first the combination of a constricted flow of credit and debt servicing obligations resulted in a forced reduction in eastern net indebtedness. Liabilities were reduced, but partially at the expense of assets. In the second half of 1982, however, the situation eased somewhat in the sense that eastern current account surpluses together with some borrowing exceeded maturities coming due. Thus, while liabilities continued to drop, some reconstitution of foreign exchange reserves was possible. This general improvement in the external financial position of eastern Europe continued in 1983. Although the adjustment was achieved in a relatively short period, the internal costs in terms of present and possibly future output foregone are likely to have been substantial.

Although there has been a modest upturn in western lending/eastern borrowing, this activity has not resumed on any large scale. This situation may be partially attributed to the cautious stance adopted by western banks, first in response to the financial problems of Poland and Romania and subsequently to the much larger debt crisis of the developing countries. The changed operating objectives adopted by banks in response to these developments have already been discussed above. However other factors, discussed below, also appear to have come into the picture.

Aside from the considerations already given, international banks' views toward lending to the east apparently have also been modified in a more fundamental way. Whereas commercial lending institutions at one time proceeded on the assumption that, for the purpose of evaluating risk, all CMEA countries should be considered as a block (i.e. the umbrella theory), more recently there has been a tendency to differentiate between these countries more carefully, emphasizing individual economic and financial performance. The demonstrated capacity to adjust current account deficits to surpluses and otherwise improve financial positions appear to have been factors contributing to the recent upturn in lending to the east.

On the eastern side, judging from public announcements, there also appears to have been some change in the attitudes toward borrowing and a re-evaluation of the desirable magnitude of external indebtedness in convertible currencies. Two important considerations seem to be the potential vulnerability to external economic disturbances resulting from foreign indebtedness and the relatively high cost of borrowing funds. Official statements suggest, however, that the motivations behind the policy decisions differ from country to country.

In Czechoslovakia, for example, the authorities have announced that despite the country's relatively low debt, "reducing external indebtedness corresponds to the country's principal political and economic interests".[301] The Romanian authorities have talked of raising a small amount of trade credits in the years to come but otherwise the reduction of the level of gross debt from $9.8 billion end-1982 to some $4 billion by end-1988 has been set as an official objective.[302] In 1984 Hungary expects to raise loans on the interbank market, including one or two syndicated credits of relatively modest size. It also plans to obtain some funds in the form of both bank-to-bank and supplier credits and drawings from the IMF and World Bank. Nevertheless, there will be a further reduction in its foreign indebtedness in order to continue the strengthening of its solvency.[303] Finally, available data suggest that Bulgaria's total debt has been declining since 1980. Presumably this is the result of an explicit policy decision, but there do not appear to have been any official pronouncements on this issue.

By contrast the Polish authorities have emphasized the importance of further credit inflows, both in the form of rescheduled debt and new credits, in order to relieve the constraints on imported inputs and raise industrial capacity utilization.[304] No reduction in debt to market economies is expected in 1984.[305]

Although the accumulation of external debt has generally been viewed positively as a normal policy aiming to boost the rate of economic development, it has also become an aspect of economic interdependence between countries. Among other things, an outstanding stock of debt can be viewed as a mechanism which transmits certain types of economic disturbances originating in international markets directly or indirectly into domestic economies. On the whole the centrally planned economies have not remained immune to this phenomenon. For example, the growth in their net interest payments stemming from higher interest rates required increases in exports, reductions in imports, or both, in those cases in which a further rise in indebtedness was considered undesirable. In other instances, the inability to roll over credits owing to changes in lenders' perceptions of credit-worthiness necessitated similar adjustments to eastern trade flows. Despite the fact that most of these eastern countries affected by external disturbances have managed the necessary adjustment, as mentioned above, it is nevertheless likely that the required responses complicated the implementation of macroeconomic plans.

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[298] This estimate excludes the convertible currency debt of east European countries to other CMEA countries, primarily the Soviet Union, which at the end of 1982 amounted to some $3 billion. Only assets held at BIS banks are deducted from external liabilities. Along with other reserves held outside BIS banks, this also leaves out of account an unknown volume of claims of the centrally planned economies on developing countries

[299] There is nothing unusual about this uncertainty. Indeed, recent experience with a number of developing countries has shown that the full details of debt levels tend to become clear only at certain occasions, as, for example, rescheduling negotiations. A number of efforts are now reported under way in international organizations to establish the magnitude of external indebtedness, including east-west debt, and to eliminate double-counting in the debt reporting systems.

[300] In some cases, loans from international financial institutions reduced the urgency of adjustment.

[301] S. Potáč, "Zpráva predsednictva UV KSC o státnim planu hospodárského a sociálniho rozvoje CSSR na rok 1984", *Rudé Právo*, 25 November 1983, p.3

[302] According to Mr. P. Gigea, the Minister of Finance, Romania intends to reduce its external debt by at least 25 per cent in 1984. *Scinteia*, 16 December 1983, p.2

[303] From a speech given by Mr. Matyas Timar, President of the National Bank of Hungary before the Swiss Foreign Research Institute and summarized in *East European Markets*, 6 January 1984, p.9, and from an interview in *Népszabadság*, 1 February 1984, p.3

[304] New medium-term trade credits to Poland in the form of rescheduled interest payments, have been an important aspect of the debt rescheduling agreements between Poland and western banks

[305] Statement by Mr. S. Dlugosz, Deputy Chairman of the Planning Commission, *Rzeczpospolita*, 23 January 1984

A considerable reduction in the net debt of several eastern countries vis-à-vis BIS banks was achieved in the last quarter of 1982 and in 1983 through additions to assets – the lowering of liabilities being less significant. This buildup of foreign exchange reserves, as documented above, is presumably a response on the part of the eastern countries to a perception of greater external economic risk.

The cost of borrowing funds (interest rates plus margins, fees, etc.) has varied considerably during the past decade. In the second half of the 1970s the rapid growth of international lending in general was stimulated by low interest rates, often negative in real terms. Price inflation in international markets reduced the real value of debt, thereby lowering the burden of debt servicing. However, the situation changed markedly in the late 1970s and early 1980s as interest rates rose to record levels. Combined with the bunching of maturities, this development required the allocation of increasing shares of increments to national income toward the servicing of debt. In other words, higher interest rates and repayments coming due led to an increased transfer of resources abroad and was seen as a drain on economies. In response, certain eastern countries reduced their trade deficits and recourse to new credits even before access to new credits became restricted.[306]

More recently rates on variable interest loans have dropped by several percentage points from the levels of 1981–1982, but real interest rates nevertheless remain high by historical standards and are expected by many observers to persist for several years. The terms available on commercial loans (margins, fees, maturities) are reported to be less favourable than those which the east could command several years ago. Finally, interest rates applied to officially backed credits have been raised in recent years to levels comparable to market rates. Taken together all of these cost factors have discouraged the taking up of new credits.

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[306] For further discussion of this see *Economic Survey of Europe in 1982*, p.266.

## 4.2 WESTERN EUROPE AND NORTH AMERICA[307]

The market economies of the ECE region shared in the global developments of trade in 1983 to varying degrees. In western Europe trade expansion was, on average, quite weak, with both exports and imports growing by 1–2 per cent in volume. In North America, imports expanded rapidly, reflecting the strong recovery in output, while exports continued to decline. Underlying this export contraction is the fall in import demand of developing countries, particularly those in Latin America which account for a significant proportion of the United States exports, and the deterioration in the region's competitive position due to the appreciation of the dollar. These changes resulted in a rapid widening of the current account deficit of the United States. As a counterpart, Japan's surplus increased noticeably, while industrial western Europe moved into surplus and the deficit of southern Europe shrank somewhat, though it remained significant.

This section examines these changes in the trade and current accounts of the market economies of Europe and North America. It starts by looking at the evolution of trade values in the last few years; then, the 1983 changes in the value of exports and imports are broken down by areas of destination and origin. This helps to shed some light on the differential impact on the various economies of the North American recovery and the debt problem of developing countries. The evolution of trade is further described in terms of volume and price developments. The section proceeds with a presentation of recent changes in the current accounts of the developed market economies and concludes with a summary of the 1984 outlook for their trade and current account balances.

### (i) Changes in trade values: a breakdown by origin and destination

The total *value of exports* from the developed market economies declined in the first three quarters of 1983 by nearly 3 per cent, while import values dropped almost 5 per cent. This was the third consecutive year of declining trade values for these economies, though in 1983 the fall was smaller than in 1982 (table 4.2.1). In 1983 the decrease in the value of trade reflects a decline in the dollar prices of traded goods, as both import and export volumes seem to have risen slightly. But contrasting developments occurred in the different economies of the group. Japan and Canada recorded value increases on the export side (apparently stimulated by the growing imports into the United States), while the value of exports from the United States and from most west European countries fell (table 4.2.2). On the import side, Canada and the United States registered steady increases, while in Japan and western Europe import values declined further, in the latter case for the third year running.

Underlying the contraction in exports from the United States (by 6 per cent in the first nine months of 1983, following a 10 per cent drop in 1982) is a substantial fall in the import demand of developing countries, particularly those in Latin America with which a significant proportion of the United States' trade is conducted. But more important than that has been the steady decline in the country's competitiveness, due to the appreciation of the dollar. The deterioration of the United States relative price position in exports of manufactures and the concomitant market share loss are illustrated in chart 4.2.1. In the meantime, its trading partners, particularly Japan, regained competitive strength. However, these trends – the deterioration in competitiveness and the decline in market

TABLE 4.2.1

**Developed market economies: changes in the value of foreign trade, 1978–1983**
(*Percentage change over previous year*)

| Country group | 1982 (Billion dollars) | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 Jan Sept |
|---|---|---|---|---|---|---|---|
| *Exports* | | | | | | | |
| Developed market economies, | 1 179.5 | 19.8 | 22.8 | 17.8 | −1.7 | −5.1 | −2.8 |
| *of which* | | | | | | | |
| North America | 276.6 | 16.8 | 24.9 | 19.9 | 6.2 | −7.6 | −5.7 |
| Industrial western Europe | 681.4 | 20.6 | 24.8 | 15.4 | −7.8 | −3.7 | −3.8 |
| Southern Europe[a] | 48.3 | 22.2 | 28.5 | 28.0 | 0.5 | 2.1 | −2.1 |
| Japan | 138.9 | 21.2 | 5.6 | 26.0 | 17.1 | −8.6 | 1.3 |
| *Imports* | | | | | | | |
| Developed market economies, | 1 277.3 | 15.6 | 28.8 | 20.1 | −4.9 | −6.2 | −4.6 |
| *of which* | | | | | | | |
| North America | 307.5 | 16.5 | 19.9 | 14.3 | 7.4 | −8.7 | 2.6 |
| Industrial western Europe | 710.2 | 17.0 | 30.7 | 19.8 | −11.7 | −4.9 | −5.7 |
| Southern Europe[a] | 73.3 | 3.0 | 30.1 | 32.5 | −5.7 | −2.2 | −7.8 |
| Japan | 131.9 | 12.1 | 39.5 | 27.0 | 2.0 | −7.9 | −8.2 |

*Source*. United Nations, *Monthly Bulletin of Statistics*, New York, January 1984

[a] Including Yugoslavia

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[307] "Western Europe" will be used here to designate the European market economies, including south European countries. Whenever southern Europe is treated separately, the rest of western Europe will be called "industrial western Europe".

TABLE 4.2.2

**Developed market economies: changes in export values by area of destination, January–September 1983**[a]

*(Percentage change from the same period in previous year)*

| Country of origin | World | Industrial western Europe | Southern Europe[b] | USA | Canada | Japan | Eastern Europe | Soviet Union | OPEC | Non-oil developing countries |
|---|---|---|---|---|---|---|---|---|---|---|
| North America | −5.3 | −8.4 | −11.7 | 10.9 | 8.7 | 0.3 | −22.9 | −28.8 | −25.5 | −9.7 |
| Canada | 3.9 | −14.6 | −31.5 | 10.9 | — | −3.7 | −37.5 | 4.2 | −32.7 | −8.9 |
| United States | −8.4 | −7.7 | −10.3 | — | 8.7 | 1.1 | −17.1 | −45.7 | −24.8 | −9.8 |
| Industrial western Europe | −4.0 | −3.3 | −5.4 | 6.7 | 0.5 | 1.3 | −11.0 | 17.6 | −15.0 | −8.7 |
| Austria | −2.2 | −2.9 | 6.1 | −7.0 | 17.5 | 8.5 | 2.9 | 5.9 | 1.8 | −16.1 |
| Belgium-Luxembourg | −3.0 | −4.0 | 1.9 | 16.9 | −1.4 | 6.5 | 7.6 | 25.3 | −15.1 | −6.2 |
| Denmark | 2.8 | 2.7 | −2.3 | 27.3 | 9.2 | −21.6 | −8.1 | −9.2 | 3.8 | 0.8 |
| Finland | −6.1 | −7.4 | −23.0 | 20.7 | −28.2 | −4.4 | −37.6 | −2.7 | −15.7 | 7.2 |
| France | −2.7 | −2.1 | −7.0 | 11.0 | −7.2 | −1.9 | −15.2 | 51.5 | −16.6 | −5.5 |
| Germany, Fed. Rep. | −4.9 | −4.2 | −3.7 | 2.5 | 7.2 | −0.4 | −11.4 | 20.6 | −19.3 | −4.0 |
| Ireland | 3.9 | 2.4 | −1.6 | 16.3 | −17.3 | 110.6 | 26.9 | 193.6 | −19.9 | 3.8 |
| Italy | −4.7 | −3.2 | −6.5 | −1.4 | 3.5 | −2.8 | −16.1 | 30.2 | −9.7 | −11.6 |
| Netherlands | −4.2 | −6.0 | −11.1 | 32.2 | 12.1 | −1.6 | −10.7 | 23.4 | −7.9 | −6.3 |
| Norway | −0.5 | 0.7 | −22.1 | 29.9 | 244.1 | 18.6 | −9.3 | 26.0 | −22.7 | −36.5 |
| Sweden | −0.3 | 1.1 | −19.2 | 21.1 | 0.9 | 24.2 | −16.4 | −21.2 | −3.1 | −16.7 |
| Switzerland | −3.6 | −1.4 | −7.7 | 1.5 | 18.6 | −1.6 | −8.5 | 7.0 | −8.7 | −12.9 |
| United Kingdom | −7.1 | −4.1 | −1.2 | 2.3 | −16.6 | −1.0 | −14.2 | 18.0 | −20.8 | −13.5 |
| Southern Europe[c] | −3.0 | 4.8 | −21.9 | −11.3 | −4.6 | 15.7 | −21.2 | 12.7 | −4.3 | −17.5 |
| Greece | −11.6 | 1.9 | −53.3 | −49.3 | −6.4 | −24.8 | −24.8 | −17.9 | −9.2 | −13.8 |
| Portugal | 6.0 | 4.6 | 24.7 | 2.5 | 26.9 | 36.2 | −12.1 | 26.0 | 51.9 | −1.1 |
| Spain | −4.5 | 2.0 | −26.0 | −3.3 | −13.6 | 18.3 | −13.3 | 51.6 | −4.9 | −20.3 |
| Turkey | 3.2 | 23.6 | −13.3 | – | 20.0 | 5.3 | −27.9 | −19.6 | −5.0 | −14.1 |
| Yugoslavia | −2.4 | .. | .. | 7.5 | .. | 72.7 | 11.9 | 6.0 | .. | .. |
| *Memorandum item* | | | | | | | | | | |
| Japan | 2.0 | 2.5 | 14.2 | 9.8 | 19.3 | — | 48.2 | −23.7 | −10.7 | 2.5 |

*Source*: IMF, *Direction of Trade*, Washington D.C., December 1983; OECD, *Monthly Statistics of Foreign Trade*, Series A, Paris, January 1984

[a] Based on exports *f.o.b.*, in US dollars

[b] Greece, Portugal, Spain, Turkey and Yugoslavia.

[c] Excluding Yugoslavia

shares – appear to have changed somewhat in the course of 1983: in the third quarter of 1983 the value of United States' exports was 5 per cent above the end-1982 level, and the deterioration of the country's competitive position appears to have come to a halt (the gains in productivity probably compensating for the real appreciation of the dollar).[308] The recent rise in the exports of the United States reflects increasing deliveries to Japan and, especially, to Canada (table 4.2.2). In Canada import demand in 1983 grew even faster than in the United States (table 4.2.3). This had a very positive impact on trade with the neighbouring country, as the United States account for about 70 per cent of Canadian imports, while Canada absorbs nearly 20 per cent of total United States' exports. It should also be recalled that in 1983, the US dollar did not appreciate in nominal terms vis-à-vis the Canadian currency. Account being taken of the differential inflation rates in the two countries, the unchanged exchange rate represents, in real terms, a depreciation of the US dollar by about 3 per cent against the Canadian currency. A similar depreciation occurred vis-à-vis the Japanese yen. This may explain the increase in the share of the United States in the Japanese market in January-September 1983, which is suggested by the value changes in the Japanese imports (table 4.2.3).[309]

In *western Europe* the value of exports declined further in the first three quarters of 1983. This reflects a decrease in dollar prices, since the volume of exports rose, though at a modest rate. The decline in the value of west European exports originated largely in intra-European trade and in trade with the developing countries. The latter was affected by the import cutbacks undertaken in debt-troubled countries and among OPEC members, in the wake of the sharp deterioration of their external positions during 1981–1982 (table 4.2.2). On the other hand, intra-European trade remained weak, as recovery in Europe continued to be uneven and hesitant. Hence, west European import demand contributed only marginally to the stimulation of international trade flows in the period January–September 1983. In fact, positive developments in import demand of the United Kingdom and the Federal Republic of Germany (which had some impact on smaller European economies), were almost offset by a decline in French and Italian imports. In the fourth quarter of the year, however, there appears to have been an acceleration in intra-European trade; if this is confirmed, the trade developments for the full year may have been more positive than those shown in tables 4.2.2 and 4.2.3. On the other hand, the revival of North American import demand boosted the growth in west European exports, but the impact on total exports remained limited, due to the relatively small share of North American markets in total exports from western Europe.[310] A large

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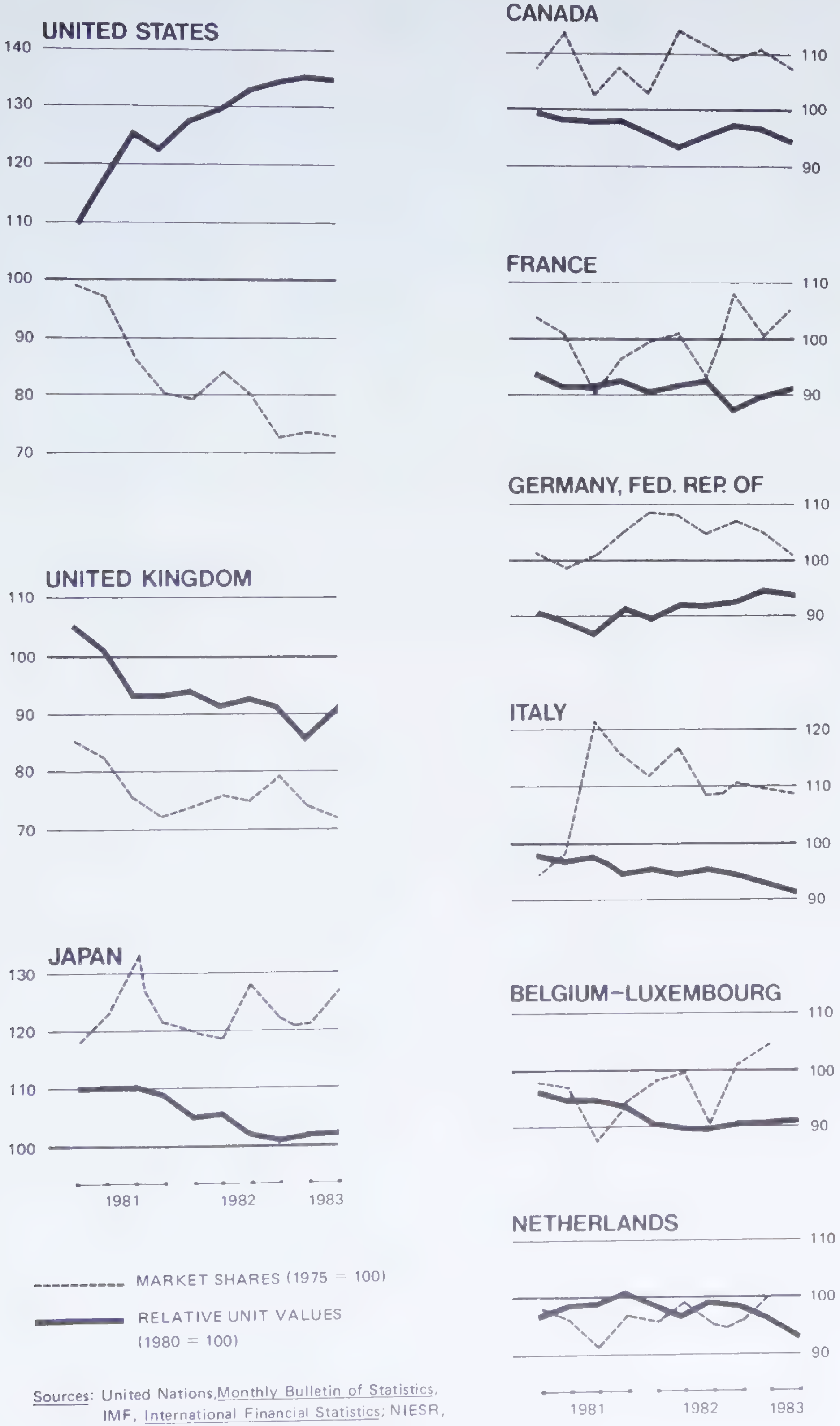
[308] Actually the index of relative unit labour costs flattened out in the first three quarters of 1983, while relative unit values of manufactured exports decreased in the first quarter of 1983, rose in the second quarter and declined again in the third quarter

[309] In that period, the value of total imports into Japan dropped by some 8 per cent, while Japan's imports from the United States declined by less than 2 per cent.

[310] While the value of exports from western Europe to the United States increased some 5–6 per cent, and at much higher rates in the case of many individual countries, this growth contributed only 0.3 to 0.4 percentage points to the increase in the value of total exports from western Europe.

Chart 4.2.1

## RELATIVE COMPETITIVE POSITION AND EXPORT PERFORMANCE IN SELECTED DEVELOPED MARKET ECONOMIES , 1981–1983



Sources: United Nations, Monthly Bulletin of Statistics, IMF, International Financial Statistics; NIESR, National Institute Economic Review, London.

### TABLE 4.2.3

**Developed market economies: changes in import values by area of origin, January–September 1983[a]**

*(Percentage change from the same period in previous year)*

| Country of origin | World | Industrial western Europe | Southern Europe[b] | USA | Canada | Japan | Eastern Europe | Soviet Union | OPEC | Non-oil developing countries |
|---|---|---|---|---|---|---|---|---|---|---|
| North America | 2.9 | 2.1 | −1.3 | 11.3 | 8.7 | 1.0 | 9.5 | 36.1 | −27.1 | 11.2 |
| Canada | 8.1 | 1.0 | −9.2 | 11.3 | — | 15.0 | 3.2 | −13.4 | −44.1 | 13.5 |
| United States | 2.7 | 2.2 | −0.6 | — | 8.7 | 3.6[c] | 10.5 | 44.0 | −25.7 | 11.1 |
| Industrial western Europe | −5.3 | −2.2 | 6.2 | −8.2 | −17.7 | 3.2 | −3.3 | −1.6 | −23.4 | −7.4 |
| Austria | −4.9 | −2.4 | 7.1 | −12.9 | −43.2 | 18.9 | −2.0 | −20.1 | −25.8 | −8.5 |
| Belgium-Luxembourg | −8.3 | −0.8 | 35.4 | −21.0 | −28.1 | 2.8 | −3.5 | −17.8 | −53.0 | −14.6 |
| Denmark | −4.4 | −3.5 | 8.9 | −12.5 | −24.3 | 10.7 | 3.2 | −30.0 | −12.6 | −6.4 |
| Finland | −4.6 | −6.6 | 2.0 | −13.6 | −18.3 | 30.9 | −21.3 | 4.3 | −39.2 | −9.4 |
| France | −8.9 | −4.8 | 5.5 | −9.9 | −12.5 | −11.0 | −14.8 | −2.5 | −25.2 | −9.3 |
| Germany, Fed. Rep. | −3.2 | −0.4 | 5.6 | −7.8 | −11.5 | 5.8 | −3.3 | −1.9 | −18.6 | −6.8 |
| Ireland | −8.7 | −12.9 | 13.9 | 3.1 | −10.3 | 0.9 | 25.3 | 19.7 | 65.3 | 1.5 |
| Italy | −9.6 | −7.2 | 12.4 | −21.9 | −32.9 | 2.8 | −3.1 | 2.8 | −17.3 | −7.6 |
| Netherlands | −0.6 | 2.2 | 2.4 | −4.3 | −22.3 | 20.0 | 2.6 | 7.8 | −15.1 | −3.6 |
| Norway | −14.8 | −13.2 | −7.8 | −14.2 | −12.1 | −21.2 | −14.5 | −46.3 | −43.4 | −18.1 |
| Sweden | −6.8 | −5.9 | −5.9 | −5.8 | −28.0 | −1.4 | 14.3 | 31.1 | −44.2 | −9.2 |
| Switzerland | 1.0 | −0.3 | 17.7 | 20.6 | −8.1 | 4.5 | 2.6 | −18.3 | 9.0 | −5.0 |
| United Kingdom | −1.7 | 2.5 | −2.8 | −2.2 | −15.2 | 5.9 | 3.6 | 0.1 | −29.5 | −4.6 |
| Southern Europe[d] | −8.9 | −4.5 | −5.9 | −20.3 | 13.3 | −1.5 | 24.0 | 6.6 | −18.2 | 5.8 |
| Greece | −16.1 | −2.4 | 45.6 | −36.5 | 2.6 | 16.5 | −16.0 | −3.3 | −44.7 | −42.0 |
| Portugal | −20.5 | −17.5 | −31.4 | 4.6 | 28.5 | −26.5 | −0.7 | −29.2 | −31.5 | −20.9 |
| Spain | −6.7 | −2.4 | −6.6 | −26.3 | −11.2 | −3.2 | 18.5 | 7.2 | −14.0 | 15.6 |
| Turkey | 6.2 | 4.2 | 53.0 | −11.5 | 111.8 | −6.1 | 77.2 | 74.0 | −2.2 | 54.5 |
| Yugoslavia | −11.7 | .. | .. | −4.4 | .. | −32.6 | 12.9 | −8.3 | .. | .. |
| *Memorandum item* | | | | | | | | | | |
| Japan | −7.5 | −0.8 | 6.3 | −1.6 | −2.5 | — | 25.9 | −18.5 | −16.7 | 0.3 |

*Source*: IMF, *Direction of Trade*, Washington D.C., December 1983; OECD, *Monthly Statistics of Foreign Trade*, Series A, Paris, January 1984

[a] Based on imports *c.i.f.*, in US dollars.

[b] Greece, Portugal, Spain, Turkey and Yugoslavia.

[c] United States, Council of Economic Advisers, "Economic Report", February 1984.

[d] Excluding Yugoslavia.

number of west European countries registered a substantial increase in their exports to the Soviet Union; and Ireland, Norway, Sweden, Portugal and Spain also made considerable gains in exports to Japan. Both markets, however, account for a relatively small share of west European exports (the Soviet Union represents about 2–3 per cent of exports from western Europe, and the share of Japan is about 1 per cent); hence, the effect on total exports of western Europe of this increase in exports to these markets was relatively insignificant.

On the *import side* the most striking feature is the sharp rise in the value of imports into *North America*. Both in Canada and in the United States this substantial import growth resulted from the recovery in output, as well as the decline in their competitive position in domestic markets. The value of imports into *western Europe* fell, though in some countries (for example, the United Kingdom, the Federal Republic of Germany, the Netherlands, Switzerland) the fall reflects a decrease in import prices, since import volumes increased. In southern Europe import values fell more rapidly than in industrialized western Europe. In fact, in some south European countries (Portugal, Yugoslavia) import demand in 1983 was significantly affected by the adjustment policies aiming to improve these countries' external positions.

#### (ii) Trade volumes and prices

In volume terms, exports of the developed market economies increased in January–September 1983 by 1 per cent, while imports rose 2 per cent (table 4.2.4). This growth, though slow, compares favourably with the trade developments in the previous year. However, the rate of change varied widely across countries.

In *industrialized western Europe*, *export volume* rose 1 per cent, but this relatively low growth was considerably influenced by a decrease in exports from the Federal Republic of Germany. In Switzerland the volume of exports also declined, while in the United Kingdom it did not change from the first three quarters of 1982. The Federal Republic of Germany and Switzerland are low-inflation countries whose currencies did not depreciate significantly, in real terms, against the US dollar, in contrast with those of most European countries; hence the price position of these two countries deteriorated relative to their European competitors. In all other countries of industrial western Europe, export volumes rose by at least 2 per cent. The European countries benefited from the recovery of import demand in North America and in some countries of western Europe. But the export growth experienced by many European countries also reflects market share gains resulting from the improvement in their competitive position relative to a number of trading partners (Canada, the United States, Japan and the above-mentioned European countries). In Ireland, Norway, Sweden and Portugal, export volumes increased at 2-digit rates in 1983: Ireland largely benefited from the growth in imports into the United Kingdom, while in Portugal and Sweden the 1982 devaluations seem to be the main explanation for these increases. The rather high export growth in Norway is mainly due to rising oil exports,[311] but traditional Norwegian exports,

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[311] Exports of oil and gas increased 17 per cent in volume terms; since oil accounts for about one-third of total exports, this rise contributed more than 5 percentage points to the growth in overall export volume.

### Table 4.2.4

### Developed market economies: export and import volumes, 1981–1983

(*Percentage change over previous years*)

| Country | Export volumes |  |  | Import volumes |  |  |
|---|---|---|---|---|---|---|
|  | 1981 | 1982 | 1983[a] | 1981 | 1982 | 1983[a] |
| North America | −2 | −8 | −5 | 2 | −6 | 6 |
| Canada | 3 | — | 3 | 3 | −16 | 9 |
| United States | −3 | −11 | −6 | 2 | −4 | 6 |
| Industrial western Europe | 3 | 1 | 1 | −4 | 2 | 1 |
| Austria | 5 | 1 | 4 | −5 | −1 | 3 |
| Belgium-Luxembourg | 1 | 2 | 4* | −4 | 1 | −6* |
| Denmark | 2 | 3 | 7 | −4 | 3 | 4 |
| Finland | 3 | −2 | 3 | −6 | 1 | 4 |
| France | 3 | −4 | 2 | −3 | 3 | −2 |
| Germany, Fed. Rep. of | 6 | 2 | −2 | −4 | 1 | 3 |
| Ireland | 1 | 7 | 10 | 2 | −4 | — |
| Italy | 6 | — | 2 | −10 | 2 | −1 |
| Netherlands | 1 | −2 | 5 | −7 | — | 4 |
| Norway | −1 | — | 14 | −1 | 7 | −4 |
| Sweden | 1 | 3 | 12 | −6 | 6 | 3* |
| Switzerland | 4 | −4 | −2 | 3 | −2 | 4 |
| United Kingdom | −1 | 3 | — | −3 | 3 | 6 |
| Southern Europe | 15 | 4 | 4 | 1 | 2 | −1 |
| Greece | −4 | −9 | −3 | 3 | 5 | −1 |
| Portugal | −2 | 4 | 17 | 6 | 6 | −7 |
| Spain | 8 | 7 | 6 | −4 | 3 | 1 |
| Turkey | 81 | 25 | — | 22 | 10 | 4 |
| Yugoslavia | 12 | −6 | 1 | −6 | −10 | −2 |
| Japan | 11 | −2 | 7 | −2 | — | −3 |
| Total | 2 | −1 | 1 | −3 | — | 2 |

*Sources*: United Nations, *Monthly Bulletin of Statistics*, New York, January 1984; OECD, *Monthly Statistics of Foreign Trade*, Series A, Paris, January 1984, IMF, *International Financial Statistics*, January 1984, and national statistical publications.

[a] January–September, except for Norway where changes concern the full year and for south European countries where they also concern the full year and are estimates for trade in goods and services (for Yugoslavia, only goods).

which are rather sensitive to the upswing in the business cycle, also grew fast. Export volumes of *south European countries* developed at rather differentiated rates in 1983: while Portugal performed particularly well and Spain registered a good export growth, Greece, Turkey and Yugoslavia had a weak export performance (in Greece exports of goods increased fast but those of services, particularly shipping, seem to have fallen). In *North America*, the volume of exports from the United States declined (due to the above-mentioned factors) and that from Canada rose, the latter reflecting – as noted – the impact of the output recovery in the United States.

In the first three quarters of 1983, the *volume of imports* into *North America* was some 6 per cent above its level in the same period of 1982. While in the United States import volume increased at about the same rate, in Canada it grew still faster. The volume of imports into the United Kingdom and the Federal Republic of Germany also rose, by about 6 and 3 per cent respectively. On the other hand, in a number of west European countries the volume of imports declined, in some cases owing to policies motivated by balance of payments pressures (France, Italy, Belgium, Portugal, Yugoslavia). These differential developments in west European countries resulted in the relatively weak growth of import volumes in western Europe as a whole, which partly offset the trade stimulus originating in North America.

*Export prices* in western Europe continued to decline in dollar terms (5 per cent in the first nine months of 1983), and *import prices* dropped still more, reflecting the 15 per cent cutback in OPEC's average oil price in March 1983 (table 4.2.5). In North America export prices did not change significantly and those of imports fell some 4 per cent. The trade prices of the developed market economies reflect a 4 per cent year-on-year decline in the dollar prices of manufactures,[312] a rise of about 6 per cent in the prices of primary commodities[313] and a 12 per cent fall in oil prices (table 4.1.3 in section 4.1). As a result of these changes, the *terms of trade* of the developed market economies increased some 2 per cent, following a similar improvement in 1982, but the improvement was stronger in North America than in western Europe. The terms of trade of the south European countries either did not change or deteriorated somewhat (Portugal, Spain, Turkey).

### (iii) Current account balances

In 1983, dramatic changes occurred in the *external positions* of the developed market economies. The most striking was the rapid widening of the trade deficit of the *United States*, which rose from $42 billion in 1982 to some $70 billion, entailing a further increase in the current account deficit from $12 billion in 1982 to $41 billion (chart 4.2.2). The recent increase of the United States trade deficit has three components: one stems from the loss of competitiveness in the domestic and foreign markets; another results from the import cutbacks in debtor countries which have been important markets for American exports; and the third reflects the fast import growth arising

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[312] Measured by the unit value index for manufactured goods exported by the developed market economies

[313] Measured by the UNCTAD's combined index of market prices of commodity exports of developing countries

TABLE 4.2.5

**Developed market economies: trade prices (in dollars) and terms of trade, 1981–1983**
*(Percentage change over previous year)*

| Country | Export prices | | | Import prices | | | Terms of trade | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1981 | 1982 | 1983[a] | 1981 | 1982 | 1983[a] | 1981 | 1982 | 1983[a] |
| North America | 8 | 1 | — | 5 | −2 | −4 | 3 | 3 | 4 |
| Canada | 4 | −2 | — | 8 | — | −3 | −4 | −2 | 3 |
| United States | 9 | 2 | — | 5 | −2 | −4 | 4 | 4 | 4 |
| Industrial western Europe | −11 | −4 | −5 | −8 | −7 | −7 | −3 | 3 | 2 |
| Austria | −14 | −2 | −7 | −10 | −6 | −7 | −5 | 5 | 1 |
| Belgium-Luxembourg | −15 | −7 | −5 | −10 | −8 | −6 | −5 | 1 | 1 |
| Denmark | −8 | −7 | −8 | −6 | −6 | −10 | −2 | −1 | 3 |
| Finland | −4 | −5 | −9 | −3 | −7 | −9 | −1 | 2 | −1 |
| France | −12 | −5 | −5 | −7 | −8 | −7 | −5 | 3 | 2 |
| Germany, Fed. Rep. of | −14 | −2 | −3 | −10 | −6 | −7 | −5 | 4 | 4 |
| Ireland | −9 | −2 | −5 | −7 | −5 | −9 | −3 | 3 | 4 |
| Italy | −9 | −2 | −7 | 1 | −7 | −9 | −10 | 6 | 3 |
| Netherlands | −8 | −2 | −6 | −7 | −5 | −6 | −1 | 3 | −1 |
| Norway | −1 | −3 | −9 | −7 | −7 | −12 | 7 | 4 | 3 |
| Sweden | −8 | −10 | −12 | −8 | −10 | −10 | — | — | −3 |
| Switzerland | −13 | — | −2 | −18 | −5 | −3 | 6 | 5 | 1 |
| United Kingdom | −6 | −9 | −7 | −8 | −6 | −8 | 2 | −3 | 1 |
| Southern Europe | −3 | −1 | −8 | −1 | −3 | −8 | −2 | 2 | — |
| Greece | −5 | 4 | −12 | −17 | 3 | −12 | 15 | 1 | — |
| Portugal | −8 | −10 | −11 | −1 | −9 | −9 | −7 | −1 | −2 |
| Spain | −9 | −5 | −13 | −1 | −5 | −11 | −8 | — | −2 |
| Turkey | −11 | −7 | −8[b] | −3 | −3 | −4[b] | −8 | −4 | −4[b] |
| Yugoslavia | 9 | 7 | — | 10 | 2 | — | −1 | 5 | — |
| Japan | 6 | −6 | −5 | 5 | −8 | −6 | 1 | 2 | 1 |
| Total | −4 | −4 | −4 | −2 | −6 | −6 | −2 | 2 | 2 |

*Sources*: United Nations, *Monthly Bulletin of Statistics*, New York, January 1984; OECD, *Monthly Statistics of Foreign Trade*, Series A, Paris, January 1984; IMF, *International Financial Statistics*, January 1984, and national statistical publications.

[a] January-September, except for south European countries, where changes concern the full year and are estimates taken from national sources

[b] First half of the year.

from the strong recovery in output. The first of these factors, which is due to the strengthening of the dollar, accounts for nearly 50 per cent of the increase in the trade deficit, while each of the other two are equally responsible for one-fourth of that increase. The external position of the United States may, however, be better than reported, owing to under-recording of service receipts and the non-recording of investment income channelled through tax havens.[314]

As a counterpart to the United States current account deficit, Japan's surplus increased significantly and *industrial western Europe* moved into surplus. In Japan, the import bill decreased in 1983 due to declining oil prices and sluggish domestic demand, while exports rose substantially, partly owing to the economic recovery in North America. The same factors also helped to ameliorate the external positions of most west European countries, but in some cases the improvement also resulted from specific measures, such as currency adjustments. France cut its trade and current account deficits by more than half, the latter from over $10 billion in 1982 to about $4 billion in 1983. Preliminary estimates for the growth in French external trade in 1983 suggest that the improvement was due to an increase in exports and to a terms of trade gain rather than to a significant drop in imports.[315] The trade surplus of the Federal Republic of Germany dropped, but the balance on services improved, enabling the country to record a virtually unchanged current account surplus. The surplus on the current balance of the United Kingdom has been shrinking since 1981; but in late 1983 the situation showed signs of improvement – exports of oil and manufactures started rising rapidly, apparently due to increased demand in the country's major trading partners, while import growth slowed down. Hence, the United Kingdom ran a current account surplus (of almost $3 billion) that far exceeded the official forecast of autumn 1982.

The *south European countries* continued to register significant current account deficits (table 4.2.6). Traditionally, these countries had large trade deficits, which were offset by surpluses in services and transfers. But in the last ten years, especially since 1979–1980, a number of factors contributed to create significant current account deficits. On the side of merchandise trade, the major factor responsible for the deterioration was the sharp rise in oil prices, which hit these countries heavily because of their particularly high dependence on imported oil. In some of them (Portugal, Turkey), losses in competitiveness during 1979–1980 also added to the adverse effects of the oil price rise. On the other hand, the surpluses on services and transfers suffered from the recession in the western economies: receipts from tourism and emigrants' remittances either grew more slowly than before or declined in dollar terms, the latter reflecting the halt in growth of the number of workers abroad, the slowdown of wage increases in the host countries and the appreciation of the dollar against European currencies. Finally, the debt service burden increased substantially, as a result of an increased indebtedness, the rise in interest rates and the appreciation of the dollar.

In the wake of adjustment policies pursued since 1980–1981, the current accounts of Turkey and Yugoslavia registered significant improvements in the last few years, although the

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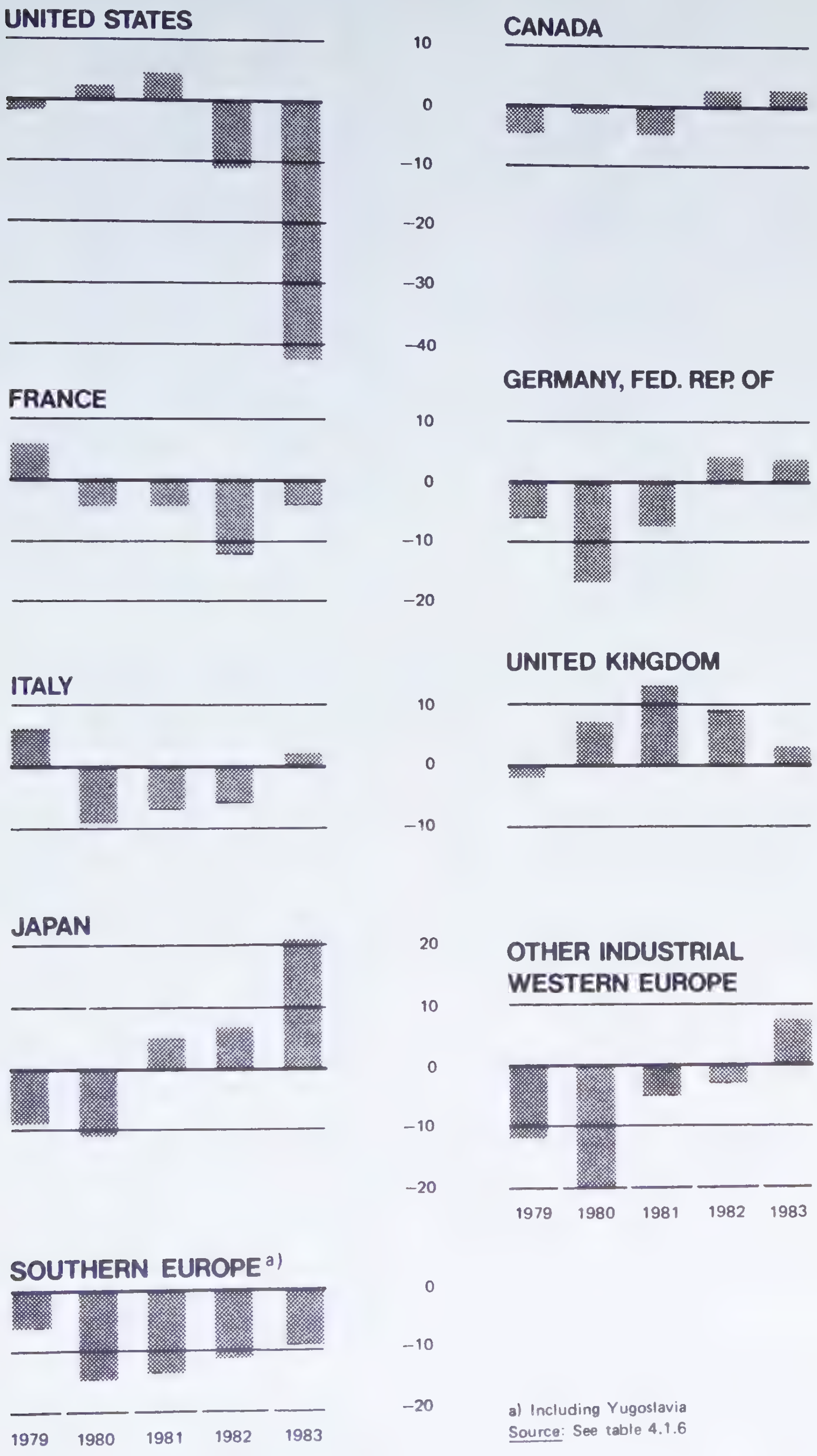
[314] Council of Economic Advisers, "Annual Report", February 1984.

[315] Chambre de Commerce et d'Industrie de Paris, *Lettre Mensuelle de Conjoncture*, no.249, February 1984.

Chart 4.2.2

CURRENT ACCOUNT BALANCES, 1979–1983

(In billions of US dollars)



a) Including Yugoslavia

Source: See table 4.1.6

TABLE 4.2.6

**South European countries: trade balances and current accounts, 1980–1983**[a]
*(Billions of US dollars or percentage shares)*

| Country and item | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|
| Greece | | | | |
| Trade balance | −6.8 | −6.7 | −5.9 | −5.8 |
| Current account | −2.2 | −2.4 | −1.9 | −2.2 |
| (Per cent of GDP) | (−5.5) | (−6.5) | (−4.9) | (−5.5) |
| Portugal | | | | |
| Trade balance | −4.2 | −5.0 | −4.8 | −3.1 |
| Current account | −1.3 | −2.7 | −3.2 | −1.7 |
| (Per cent of GDP) | (−5.2) | (−10.9) | (−13.6) | (−8.2) |
| Spain | | | | |
| Trade balance | −11.6 | −10.1 | −9.2 | −7.4 |
| Current account | −5.0 | −5.0 | −4.1 | −2.5 |
| (Per cent of GDP) | (−2.4) | (−2.7) | (−2.5) | (−1.6) |
| Turkey | | | | |
| Trade balance | −5.0 | −4.2 | −3.1 | −3.3 |
| Current account | −3.2 | −2.1 | −1.2 | −1.7 |
| (Per cent of GDP) | (−4.8) | (−3.6) | (−1.3) | (−3.0) |
| Yugoslavia | | | | |
| Trade balance | −6.1 | −4.3 | −2.8 | −2.2 |
| Current account | −2.3 | −0.9 | 0.6 | — |
| (Per cent of GSP) | (−3.5) | (−1.2) | — | — |
| Total above | | | | |
| Trade balance | −33.7 | −30.3 | −25.8 | −21.8 |
| Current account | −14.0 | −13.1 | −11.0 | −8.1 |
| *Memorandum item* | | | | |
| Total OECD | | | | |
| Trade balance | −74.3 | −27.8 | −21.0 | −14.0 |
| Current account | −69.1 | −28.0 | −29.8 | 24.2 |
| (Per cent of GDP) | (−0.9) | (−0.4) | (−0.4) | (−0.3) |

*Sources*: OECD, *Economic Outlook* (34), Paris, December 1983; for Portugal, D.C.P., *Grandes Opcões do Plano para 1984*, Lisbon, September 1983 and Bank of Portugal, direct communication to ECE secretariat; for Spain, Banco de España, *Boletin Economico*, January 1984, and Ministerio de Economia y Hacienda, *Sintesis Mensual de Indicadores de Coyuntura Economica*, March 1984; for Turkey, Ministry of Finance, direct communication to ECE secretariat and State Planning Organization, *1984 Annual Programme*; for Yugoslavia, National Bank of Yugoslavia, *Godišnij izvestaj* (Annual Report) and direct communication to ECE secretariat.

[a] Including private and official transfers.

Turkish position has lately deteriorated again. In Portugal and Spain, adjustment policies only came into effect from mid-1982. In Portugal, these policies brought a significant improvement to the 1983 trade balance, which was somewhat offset by a decline in the dollar value of emigrants' remittances. The current account position of Spain is estimated to have improved somewhat, due to a fall in the trade deficit.

### (iv) The outlook for 1984

The trade outlook for 1984 appears somewhat brighter in the first quarter of the year than a few months earlier. Forecasts published in late 1983 and early 1984[316] indicate a favourable development in the trade of western Europe and North America, assuming a modest recovery in west European countries. This assumption appears now to be realistic. In fact, while recovery in western Europe was hesitant during the first three quarters of 1983, scattered data for the fourth quarter of 1983 seem to indicate a revival of intra-European trade.[317] This is fundamental for the strengthening of the world trade situation. In the United States, the Administration's latest forecast is for a widening of the country's trade deficit. Hence, the European countries will probably benefit from the anticipated vigorous volume growth in North American imports (by nearly 15 per cent) as well as from lagged effects of their increased competitiveness vis-à-vis the United States (which are likely to persist for a while, even with a depreciation of the dollar). The volume of exports from the four bigger European members has been forecast to rise by some 5 per cent in 1984 and that of imports at a somewhat lower rate. Exports and imports of smaller countries are expected to increase slightly faster than those of the larger European countries. Trade of the developed market economies as a whole is now forecast to expand 5–6 per cent in 1984.

As mentioned above, the trade deficit of the United States is projected to increase, to some $110 billion in 1984. The main factors underlying this deterioration are the same that prevailed in 1983 – the (lagged) effects of the strong dollar, the financial problems of the Latin American countries and the lag between the recovery in the United States and that in Europe and Japan. The current accounts of the major European countries are predicted to remain more or less in line with those of 1983, except for France, which is expected to run a small surplus. Further improvements are also expected in the current accounts of the south European countries, especially those presently engaged in adjustment (Portugal, Spain, Turkey). As a group, the developed market economies may record a current account deficit of $40 billion. This includes a $80 billion deficit for the United States, a surplus of about $30 billion in the current account balance of Japan and a surplus of some $10 billion in that of the four larger European market economies (half of which is accounted by the Federal Republic of Germany).

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[316] OECD, *Economic Outlook* (34), December 1983; Commission of the European Communities, *The Economic and Social Situation in the Community*, Communication from the Commission to the European Council, 1 March 1984. Most of the independent forecasting institutes in western Europe assume a similar rate of growth in their forecasts, most of which date from early to mid-autumn.

[317] According to available national sources, this would be the case of the United Kingdom, France and Norway. The survey of the manufacturing industry of the European Community also indicates an improvement in the member countries' net balances of export order-books towards the end of 1983.

## 4.3 EASTERN EUROPE AND THE SOVIET UNION

Developments in the external sector of the European centrally planned economies in 1983 were characterized by continued strong export volume growth, well above the still hesitant pace of world trade, and by a further improvement in the current account balance of the region. In contrast to the preceding year, however, this was achieved with a substantial expansion of import volume. For the countries of eastern Europe, an absolute contraction of imports by some 10 per cent in 1981–1982 had been necessary to obtain the notable turnaround of their external position recorded in those years from current account deficits to a small surplus. The easing of the balance-of-payments constraint resulting from this large adjustment step permitted further gains to be made in 1983 together with some growth in imports, which nonetheless remained well below the 1980 level. In the case of the Soviet Union, another large increase in the external surplus was recorded in 1983, based on high export volume growth, terms-of-trade changes which were still positive (though at a much reduced rate compared to the experience of recent years), and some deceleration of import growth from the very high rates registered since 1980.

These developments will be examined in some detail in this section. The first part reviews the overall changes in trade volumes, prices and terms of trade in the last two or three years. The more complex developments in the countries of eastern Europe will be discussed first, followed by a review of foreign trade changes in the Soviet Union. In the second and third parts, changes in trade among the CMEA countries and in trade with the market economies will be examined separately.[318] The fourth part will be devoted to the movements in the trade balances and the fifth to a discussion of trade policy stances and the near-term outlook. East-west trade will be dealt with in greater detail in section 4.4 below.

### (i) Trade volumes, prices, terms of trade

After a severe slowing in the first two years of the 1980s, the exports of the European centrally planned economies expanded again in 1982 at a vigorous 6 per cent, measured in volume terms,[319] even as the world economy was sliding into an absolute contraction of trade volume. In 1983, export growth appears to have continued at a very similar or marginally higher rate. Import growth, which had continued to be very slow for the group as a whole through 1982, picked up to an estimated 4 per cent in volume terms in 1983. This revival of import growth reflects a turnaround in the countries of *eastern Europe*, where imports had contracted for two successive years, whereas in the *Soviet Union* import growth slowed in 1983. In other ways, too, the trade developments of the last two years reflect significant differences between the impact of the external sector on the domestic economies of the smaller, trade-dependent countries of eastern Europe on the one hand, and that of the Soviet Union on the other, as well as between intra-CMEA trade and trade with the developed and developing market economies (see tables 4.3.1 and 4.3.3).

The countries of *eastern Europe* had been forced into a major adjustment of their overall trade flows by developments in the international economic environment in 1981–1982.[320] The global recession reduced the earnings capacity of these trade-

TABLE 4.3.1

**Eastern Europe and the Soviet Union: volume of foreign trade by direction, 1981–1983**
(*Annual percentage change*)

| | Year | Exports to: | | | Imports from | | |
|---|---|---|---|---|---|---|---|
| | | World | Socialist economies | Market economies | World | Socialist economies | Market economies |
| Eastern Europe . . . . . . . . . . | 1981 | 2 | — | 2 | −5 | −1 | −11 |
| | 1982 | 6 | 6 | 6 | −5 | −2 | −13 |
| | 1983 | 7 | 6 | 9 | 4 | 4 | 3 |
| Soviet Union . . . . . . . . . . . | 1981 | — | −1 | 4 | 8 | 5 | 11 |
| | 1982 | 6 | −3 | 18 | 7 | 7 | 6 |
| | 1983 | 5 | −1 | 12 | 5 | 4 | 6 |

*Source*: As for table 4.3.3

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[318] For reasons of data availability for the last year, the breakdown of *trade partners* used in the text and the tables of this section differs somewhat from that employed normally in UN statistics and especially in section 4.4 below (see table 4.3.7, note *a*). Importantly, following the practice of national statistical sources, trade with Yugoslavia is here included in the data on trade with "socialist countries". Trade with the "market economies" refers to trade with all developed and developing countries not included in the "socialist" trade aggregate.

[319] This review will be conducted in terms of *volume* changes wherever feasible, even though this involves a substantial amount of estimation in the case of the data for the last year. Data on changes in trade *values* are shown in the tables mainly for reference purposes. For the sake of comparability with other value data in the *Survey* and other international data sources, those shown here generally reflect values measured in US dollars even for trade flows largely conducted in other currencies (e.g. intra-CMEA trade). Consequently, value changes will differ – often substantially – from those shown in national sources. Owing to the strong appreciation of the dollar in 1981–1983, the year-to-year changes of trade value measured in dollars are so different from those observed in earlier years, and so differently related to the changes in trade volume, as not to be very helpful to the comprehension of real trends. This caution applies *a fortiori* to the interpretation of changes in the dollar value of trade flows originally measured in terms of roubles, especially since price trends in the rouble trade area differ substantially from those observed elsewhere in the world economy.

[320] See *Economic Bulletin for Europe*, vol. 35, No.4, *loc.cit.*, chapter 1.3, and *Economic Survey of Europe in 1982*, chapter 4.3.

intensive economies at the same time as the rise in international interest rates imposed additional financial burdens and, thus, a need for increased earnings. While the adjustment measures included strong export promotion efforts, the main burden fell on imports. Emergency cuts had generally to be superimposed on import-economizing efforts aimed at countering the adverse effects on the east European countries' terms of trade of the gradual absorption of the 1979–1980 world market oil price increases into the intra-CMEA trade price structure.

These efforts achieved the required result in 1982: there was a dramatic turnaround in the external account of the east European countries, but at a considerable cost in terms of current output and – since investments were much more sharply reduced in the process than had been anticipated – possibly in terms of future growth. The dimensions of the adjustment in trade are clearly indicated by the 1982 rise in east European real exports by some 6 per cent (notably including an increase of the same magnitude in exports to the market economies) and the simultaneous contraction of real imports by 5 per cent, following a similar drop in the preceding year (see table 4.3.1). At the same time attention should be drawn to the considerable differences between the changes registered in individual countries (see table 4.3.2). In particular, the absolute drop in real imports of the group in 1981–1982 was entirely the reflection of the much larger contractions in Poland and Romania, and to a lesser extent in Czechoslovakia, whereas in the remaining countries import growth merely ceased or slowed.

The resumption of real import growth into eastern Europe in 1983 at an estimated 3–4 per cent has to be seen against the background of the above developments as a very modest upturn. In the case of imports from the socialist countries it merely sufficed to approximately regain the 1980 real level, and in that of imports from the market economies the volume remained about one-fifth below that of 1980. With real export growth at some 7 per cent, substantially in excess of that of imports, the real net outflow of resources from these countries continued also in 1983. While there was a further deterioration in the terms of trade of the east European countries, it was – at some 2 per cent – more moderate than in the preceding year (see table 4.3.3); hence the real changes noted above also permitted some further improvement in the nominal balance of trade of the group (sub-section (iv) below). The external adjustment of the east European countries, which had achieved a breakthrough in 1982, thus clearly continued in 1983.

In contrast to the preceding year, the changes in the export and import volume of eastern Europe as a whole in 1983 do not conceal wide variations between countries (table 4.3.2). Real export growth is estimated to have been in the 5–10 per cent range in all countries. Real imports swung into a modest expansion, generally at some 3–4 per cent,[321] in all countries but Romania where, following the payments difficulties of 1982, partly under IMF auspices, a particularly severe adjustment course was being pursued.

The *terms of trade* of the east Eurpean countries, as already noted, showed some further decline in 1983. In the case of their trade with the market economies this reflects to some degree the relatively more important role in their export structure, as opposed to that of imports, of fuels and energy, the prices of which dropped particularly sharply in 1983. However, under the combination of soft external markets and a strong export drive, the export prices of the east European countries' manufactured goods may also have fared worse than import prices for the same category of goods. Finally, in spite of an upturn in world market prices for agricultural products in 1983 (see section 4.1), the prices of food products strongly represented in the east European export mix appear to have turned down almost as sharply as that of crude oil.[322] In the intra-CMEA market, the adverse movement of the terms of

TABLE 4.3.2

**Eastern Europe and the Soviet Union: volume of foreign trade, by country, 1970–1983**
*(Annual and average annual percentage change)*

| | Exports | | | | Imports | | | |
|---|---|---|---|---|---|---|---|---|
| | 1970–1980[a] | 1981 | 1982 | 1983[b] | 1970–1980[a] | 1981 | 1982 | 1983[b] |
| Bulgaria | 10.9 | 8 | 11 | 5 | 8.3 | 9 | 3 | 3 |
| Czechoslovakia | 6.2 | 1 | 6 | 6 | 5.0 | −7 | 3 | 3 |
| German Dem. Rep.[b] | 7.0 | 10 | 10 | 10 | 6.4 | — | — | 9 |
| Hungary | 7.9 | 2 | 7 | 9 | 5.9 | — | — | 4 |
| Poland | 7.7 | −19 | 9 | 9 | 8.1 | −17 | −14 | 4 |
| Romania[b] | 7.6 | 14 | −8 | 6 | 7.8 | −7 | −23 | −4 |
| Eastern Europe | 7.6 | 2 | 6 | 7 | 6.8 | −5 | −5 | 4 |
| Soviet Union | 5.3 | — | 6 | 5 | 7.8 | 8 | 7 | 5 |
| Eastern Europe and the Soviet Union | 6.6 | 1 | 6 | 6 | 7.2 | 1 | 1 | 4 |

*Source*: National statistics or secretariat estimates based on national value data and international price data (see note to table 4.3.3).
[a] Growth trend, obtained as the slope of a regression line fitted to the data.
[b] Secretariat estimates.

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[321] The much larger increase shown for the German Democratic Republic is at the same time the most tenuous of the estimates presented, since owing to the scarcity of national trade data the import side of the trade account has to be estimated residually. The very substantial upswing in import value obtained in this way is, however, consistent with estimates based on trade partner data.

[322] Export prices for foodstuffs of developed market economies dropped by 5 per cent in the first three quarters of 1983, those for meat fell by 10 per cent, with a 15 per cent decline in the price of pork (United Nations, *Monthly Bulletin of Statistics*, January 1984, table 59). For the same period, Hungary reports a 14 per cent price drop in dollar terms in its foodstuff exports to the non-rouble trading area (*Statisztikai Havi Közlemenyek*, 1983, No. 10, p.95).

TABLE 4.3.3

**Eastern Europe and the Soviet Union: change in foreign trade value, volume, unit values and terms of trade, by major partner regions, 1980–1983**
*(Annual percentage change)*

| | Exports | | | | Imports | | | |
|---|---|---|---|---|---|---|---|---|
| | 1980 | 1981 | 1982 | 1983 | 1980 | 1981 | 1982 | 1983 |
| | | | | | *Eastern Europe* | | | |
| *Total trade* | | | | | | | | |
| Value[a] | 12.2 | 0.5 | 4.0 | 4.7 | 12.2 | −3.1 | −4.1 | 3.5 |
| Volume | 3 | 2 | 6 | 7 | 1 | −5 | −5 | 4 |
| Unit values[a] | 9 | −1 | −3 | −2 | 11 | 2 | — | — |
| Terms of trade | −2 | −3 | −3 | −2 | .. | .. | .. | .. |
| *of which:* | | | | | | | | |
| *Trade with socialist countries* | | | | | | | | |
| Value[b] | 5.9 | 8.3 | 12.3 | 11.6 | 8.8 | 11.1 | 7.8 | 11.7 |
| Volume | −1 | — | 6 | 6 | — | −1 | −2 | 4 |
| Unit values[b] | 7 | 8 | 6 | 6 | 9 | 12 | 10 | 8 |
| Terms of trade | −2 | −4 | −3 | −2 | .. | .. | .. | .. |
| *Trade with developed and developing market economies* | | | | | | | | |
| Value[a] | 22.0 | 0.1 | −0.5 | 1.1 | 15.6 | −13.1 | −16.2 | −3.4 |
| Volume | 11 | 2 | 6 | 9 | 2 | −11 | −13 | 3 |
| Unit values[a] | 10 | −2 | −6 | −8 | 14 | −3 | −4 | −6 |
| Terms of trade | −4 | −1 | −2 | −2 | .. | .. | .. | .. |
| | | | | | *Soviet Union* | | | |
| *Total trade* | | | | | | | | |
| Value[a] | 18.2 | 3.8 | 9.6 | 5.1 | 18.6 | 6.8 | 6.2 | 3.3 |
| Volume | 1.6 | 0.4 | 6 | 5 | 7.3 | 8.2 | 7 | 5 |
| Unit values[a] | 16.3 | 3.4 | 3 | — | 10.5 | −1.3 | −1 | −1 |
| Terms of trade | 5.3 | 4.8 | 4 | 2 | .. | .. | .. | .. |
| *of which:* | | | | | | | | |
| *Trade with socialist countries* | | | | | | | | |
| Value[b] | 13.9 | 15.9 | 9.4 | 10.5 | 10.3 | 13.1 | 15.2 | 9.3 |
| Volume | 4.0 | −1.1 | −3 | −1 | 3.4 | 4.9 | 7 | 4 |
| Unit values[b] | 9.5 | 17.2 | 12 | 11 | 6.7 | 7.8 | 8 | 5 |
| Terms of trade | 2.7 | 8.7 | 5 | 6 | .. | .. | .. | .. |
| *Trade with developed and developing market economies* | | | | | | | | |
| Value[a] | 22.2 | 2.8 | 10.9 | 1.7 | 27.9 | 12.2 | −2.1 | −1.1 |
| Volume | −1.4 | 4.0 | 18 | 12 | 11.7 | 10.6 | 6 | 6 |
| Unit values[a] | 23.9 | −1.1 | −6 | −9 | 14.5 | 1.4 | −8 | −6 |
| Terms of trade | 8.2 | −2.5 | 2 | −3 | .. | .. | .. | .. |

*Source*: As for tables 4.3.7.

*Note*: Value and unit value changes for total trade and for trade with the market economies are expressed in terms of US dollars, whereas value and unit value changes in trade with socialist countries reflect value measures in transferable roubles All *unit value* and *terms-of-trade* indices were derived from the value and volume figures Apparent inconsistencies between the four indicators for any given year reflect separate rounding after calculation from unrounded numbers. All figures for 1983 are secretariat estimates.

*Eastern Europe*: Volume indices for *total trade* from national statistical sources have been aggregated with weights reflecting the individual countries' shares in the total trade of the region in 1975, measured in US dollars Volume indices for *trade with socialist countries* and *with market economies* were obtained by deflating national data (supplemented by secretariat estimates) on the value of trade in the two markets in five major commodity groups by means of Hungarian, Polish and UN price indices This exercise was conducted in terms of transferable roubles for trade with socialist countries and in US dollars for trade with market economies, deflated commodity group data were aggregated for each country and for eastern Europe in terms of their value in 1975 transferable roubles or US dollars, respectively.

*Soviet Union* Volume indices of *total trade, trade with socialist countries* and *trade with market economies* for 1980 and 1981 from USSR Ministry of Foreign Trade, *Vneshniaia torgovlia SSSR 1922-1981*, Moscow, 1982 Separate indices for developed and developing market economies have been aggregated in terms of the value of these flows at 1975 US dollars in order to obtain the index for all market economies. Volume indices for 1982 and 1983 are secretariat estimates obtained on the procedure outlined above

[a] In terms of US dollars

[b] In terms of transferable roubles.

trade stems from the absorption of past changes in world market prices under a formula mitigating the impact of large changes by spreading them out over several years. As the 1979–1980 energy price shock is still not fully digested in this system, its absorption continues to produce downward pressure on the terms of trade of the east European countries, all of which are net energy importers in this market.[323]

Data on changes in the *commodity composition* of foreign trade in 1983 are available only for some countries (Bulgaria, Czechoslovakia, Hungary and Poland), and only at current prices (see table 4.3.4, where these are shown together with 1982 figures for the remaining east European countries and the Soviet Union). While these data must be interpreted with caution, since the changes in current value in the various commodity groups reflect different mixtures of rouble and non-rouble trade price movements as well as exchange rate changes, a number of broad or country-specific features may be noted. The value of *machinery and equipment* exports increased faster than total exports or at rates suggesting an increase in real terms in all of the east European countries for which 1983 data are available. On the import side the relative performance of this commodity group has again been notably weaker, though

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[323] Fuel and energy price increases appear to be slowing, however: after 25 and 23 per cent increases in 1981 and 1982, the rouble price rose by 16 per cent in 1983, according to Hungarian statistics. Under the five-year averaging procedure used in the past, another 12–13 per cent increase could be expected for 1984. The rouble price of petroleum, which in 1982 was still some 25 per cent below the world market price level, appears to have pulled even with the falling world market price in 1983. With further increases on the five-year formula, it would rise substantially above the expected world level in 1984 (and would not begin declining until 1986 if world prices remained flat through 1985).

TABLE 4.3.4

**Eastern Europe and the Soviet Union: trade in main commodity groups, 1982 or 1983**
*(Percentage change of current value over same period of preceding year)*

| Country | Year | Machinery and equipment | Fuels, metals, minerals | Raw materials etc. | Food-stuffs | Consumer goods | Total |
|---|---|---|---|---|---|---|---|
| *Exports from:* | | | | | | | |
| Bulgaria | 1983 | 12.2 | −2.8 | 13.2 | 1.9 | 14.0 | 8.6 |
| Czechoslovakia | 1983[a] | 13.0 | 1.3 | 6.1 | −22.3 | 2.8 | 7.3 |
| German Dem. Rep. | 1982 | 13.2 | 25.7 | 12.0[b] | . . | 6.1 | 14.1 |
| Hungary | 1983 | 10.5 | 63.9[c] | 21.5 | 6.6 | 8.0 | 15.3 |
| Poland | 1983 | 8.8 | 25.3[c] | 23.7 | 26.8 | −20.9[d] | 11.3 |
| Romania | 1982 | 3.9 | −21.2 | −4.8 | −25.1 | −2.7 | −9.1 |
| Soviet Union | 1982 | 4.1 | 15.2[c] | −0.6 | −11.5 | 16.7 | 10.6 |
| *Imports to:* | | | | | | | |
| Bulgaria | 1983 | 8.8 | 8.4 | 9.5 | 11.0 | −5.5 | 8.0 |
| Czechoslovakia | 1983[a] | 8.5 | 14.3 | −1.7 | −5.7 | 23.5 | 8.8 |
| German Dem. Rep. | 1982 | 5.3 | 13.1 | −6.7[b] | . . | −8.1 | 4.3 |
| Hungary | 1983 | 4.0 | 22.7[c] | 11.1 | 17.5 | 8.6 | 12.4 |
| Poland | 1983 | 13.9 | 32.0[c] | 4.6 | −24.8 | 56.2[d] | 10.6 |
| Romania | 1982 | −14.6 | −21.4 | −25.5 | −57.1 | −7.0 | −24.2 |
| Soviet Union | 1982 | 22.1 | 36.9[c] | −0.3 | −8.3 | 5.5 | 7.2 |

*Sources*: National statistical publications. Data are only roughly comparable across countries owing to differences in the definition of commodity groups and to the fact that growth rates are expressed in terms of national currencies.

*Commodity groups*: Machinery and equipment includes means of transport; fuels, metals and minerals includes electricity (wherever fuels and electricity alone are shown, metals and minerals are included in the raw materials group); raw materials etc. includes industrial semi-fabricates, chemicals, construction materials; foodstuffs includes raw materials for food industry, other agricultural food products, live animals, and feedstuffs; consumer goods refers to industrial consumer goods except food products and means of transport.

[a] January–June.

[b] Including foodstuffs

[c] Fuels and electricity only

[d] Products of light industry.

to a lesser degree than in the preceding year; this is in keeping both with the general softness of investment activity in the region and the modest pickup in investment noted in 1983. Changes in the value of trade in *fuels, minerals and metals* show striking differences between countries. In Bulgaria and Czechoslovakia, the value of imports increased at rates well below the 16 per cent rise in the intra-CMEA fuel price. Since fuels constitute the most important component of this commodity class and intra-CMEA imports provide the bulk of imports in the category, these value data suggest substantial real cuts in fuel imports, a conclusion supported by the reductions in the energy-intensity of economic activity reported elsewhere in this *Survey*. Hungary and Poland, on the other hand, report strikingly large increases in the value of fuel imports, as well as similar or much higher rates of change on the export side. In the case of Hungary, where the data can be broken down into rouble and convertible currency components, most of the import rise and all of the export increase occurred in the convertible currency sector, indicating a substantial rise in Hungarian fuel re-exports of imports from OPEC sources.[324] This factor also played a role in Poland, though the large increase in fuel exports here is likely to reflect mainly the recovery of Poland's traditional markets for coal, following the revival of coal production in the last two years.[325]

Finally, the below-average growth of exports of *foodstuffs* in Bulgaria and Hungary, both major exporters in this commodity group, should be noted. In both cases this reflects disappointing harvest outcomes; in the case of Bulgaria this was severe enough to lead to a sharp drop of exports in real terms, whereas in Hungary the volume of exports appears still to have increased by some 4 per cent. By contrast, in Poland food exports clearly have made a significant contribution to the overall export volume growth.

In their broad directions, if not always in their specific magnitudes, the relative changes in export and import volume and the changes in the commodity structure of trade described above appear to be in accordance with the policy intentions of the east European countries in the foreign trade sphere. However, only very limited information is available on *plan targets* for foreign trade (table 4.3.5), and the figures are often difficult to interpret.[326] As noted in last year's *Survey*, the emergency adjustments to national plans and policies which had been necessitated in 1982 by the threat to the solvency of a number of countries had made the easing of the tight balance-of-payments situation, and therefore trade surpluses, key goals in most of the east European plans for 1983. Import growth generally was to be restrained below that of exports to protect or enlarge the external balance gains made in 1982, though some countries – especially those where particularly steep import cuts had been necessary – planned for substantial increments. While export growth expectations appear not to have been met in a number of countries, especially – and by a wide margin – in the case of Romania, and possibly in Poland (where the plan figures, however, may have been in real terms), the capacity of the centrally planned economies to link imports to export performance in the course of plan implementation has protected the external balance target even in those cases.

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[324] Hungarian convertible-currency fuels trade was in the $600–$700 million range in 1983, some 14 per cent of total convertible-currency trade, as against about 5 per cent two years earlier. In dollar terms, the value of this trade increased about 40 per cent in 1983, indicating a rise of well over 50 per cent in real terms. Data in section 4.4 below show a substantial increase in western imports of fuels from eastern Europe in general.

[325] Polish coal exports, which in 1982 accounted for more than three-quarters of the country's fuel exports, rose by 24 per cent in tonnage terms in 1983, to 35 million tons. Exports to the market economies absorbed the largest part of the increment, rising by 43 per cent to a level of some 20 million tons (still some 6 million tons short of the 1979 peak). However, the import (on credit terms) and re-export after processing of some 1 million tons ($230 million) of Libyan oil mentioned in a recent statement by Foreign Trade Minister T. Nestorowicz (*Rzeczpospolita*, Warsaw, 5 December 1983) must also be reflected in these figures.

[326] In particular, it is rarely specified whether the announced foreign trade plan targets refer to changes in nominal trade *value* or to changes in *volume* terms

TABLE 4.3.5

**Eastern Europe and the Soviet Union: foreign trade, planned and actual, 1983–1984**
(*Annual percentage change*)

|  | Plan 1983 |  |  | Actual 1983 |  |  |  | Plan 1984 |  |  |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  | Value |  | Volume |  |  |  |  |
|  | Turnover | Exports | Imports | Exports | Imports | Exports | Imports | Turnover | Exports | Imports |
| Bulgaria | 8 | . . | . . | 6 | 8 | 5 | 3 | 8 | . . | . . |
| Czechoslovakia | . . | . . | . . | 6 | 6 | 6 | 3 | . . | 8* | 9* |
| German Dem. Rep. | 13 | . . | . . | 8 | 9 | 10 | 9 | 5 | . . | . . |
| Hungary | . . | 7 | — | −1 | −4 | 9 | 4 | . . | 5–6* | — |
| Poland | . . | 12 | 12 | 3 | 2 | 9 | 4 | . . | 12 | 15 |
| Romania | 14 | 18 | 8 | — | −9 | 6 | −4 | 14 | . . | . . |
| Soviet Union | 2* | . . | . . | 5 | 3 | 5 | 4 | . . | . . | . . |

*Source*: *Plan targets* from national plan documents, explanatory speeches and other official announcements; 1983 *volumes* as for table 4.3.4, *values* as for table 4.3.7.
*Note*: Value changes are measured in terms of US dollars.

Jointly, the east European countries widened their trade surplus from $4.4 billion in 1982 to an estimated $5.5 billion in 1983. This will be examined in sub-section (iv) below.

The notable features in the foreign trade of the *Soviet Union* over the past two years have been a marked upswing in export volume growth, some slowing of the (recently very high) rate of expansion of real imports, and a further widening of the substantial overall trade surplus. This summary of changes in the trade aggregates at the same time conceals significant differences – in fact, disparate developments – in trading conditions and trade flows in the two trading areas, the intra-CMEA market on the one hand and trade with the market economies on the other hand.

Soviet *export volume* increased by over 6 per cent in 1982 and probably only slightly less – at an estimated 5–6 per cent in 1983, following a period of years in which a very low expansion rate (less than 1 per cent on the average in 1979–1981) had been able to support *import volume* growth of 7–9 per annum even while generating a succession of large trade surpluses (see table 4.1.3 for the historical series). Real import growth continued at a high rate in 1982, but probably fell off to some 4–5 per cent in 1983.

As can be seen in table 4.3.1, the recent upturn in Soviet exports entirely reflects a much stronger acceleration in the volume growth of exports to the market economies, to a rate of 18 per cent in 1982 and an estimated 12 per cent in 1983. This more than compensated for an absolute decline (at 1–2 per cent annually in the last two years) in real exports to the socialist countries. In both markets, changes in the volume of fuel exports were the decisive component in 1982 and almost certainly in 1983.[327] These contrasting developments in the two markets reflect in turn the reaction to divergent price changes. In the intra-CMEA market, as noted earlier, the rouble price of fuels was still rising strongly in 1982–1983 (at an average rate of some 20 per cent), thus generating substantial *terms-of-trade* gains for the Soviet Union (see table 4.3.3). In the trade with the market economies, by contrast, the energy price had begun to turn down in 1982. Although the terms of trade appear to have moved against the Soviet Union only in 1983, a temporary financial tightness coupled with high import requirements caused it to respond with a strong export volume push in 1982, which continued – also focusing on energy exports – through most of 1983.[328]

The slowing of Soviet import volume growth from 7 to some 4–5 per cent in 1983 seems to stem entirely from some deceleration in imports from socialist countries (see table 4.3.1).[329] In 1982, imports from both markets expanded at very similar rates, and in both cases owing mainly to very strong expansion in the volume of *machinery and equipment* imports. Imports in this category from the centrally planned economies had increased by an estimated 9–10 per cent in volume in 1982 and, more remarkably, those from the market economies by some 40 per cent, accounting for about one half of the total import increment in that year (see table 4.3.4 for the impact in the aggregate value data). This evidently reflects the strong investment growth in the Soviet Union noted in chapter 3.4, which also continued in 1983 and may be expected to have had a similar effect on imports in that year.[330] Other significant changes to be observed in the data on the commodity structure of Soviet imports in 1982 are a downturn in the value of *foodstuff* imports (a $3 billion drop in food imports from the market economies, partially offset by a rise of some $1.5 billion in imports from socialist countries) and a strong upsurge (some $1 billion) in *fuels and energy*. Following the good grain harvest in 1983, requirements for foodstuff imports are likely to have eased further. The fuel imports reflect to the largest part ($0.7 billion) a new phenomenon: a very substantial rise in oil imports from OPEC countries, a trend which appears to have significantly strengthened in 1983.[331]

The changes in trade volume described above, combined with a further small gain in the overall terms of trade of the Soviet Union, resulted in a continued widening of the Soviet trade surplus from over $9 billion in 1982 to more than $11 billion estimated for 1983.

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[327] In 1982, fuel and energy exports accounted for 52 per cent of the value of Soviet total exports, with shares of 48 per cent in the value of exports to the socialist countries and 58 per cent in exports to the market economies. On the basis of prevailing price trends and the reported value changes, fuel exports to the socialist countries must have declined some 5–7 per cent and those to market economies must have risen some 20–25 per cent in volume in 1982. The commodity breakdown of 1983 trade is not yet available

[328] See *Economic Bulletin for Europe*, vol. 35, No.4, *op. cit.*, chapter 1.3 for an explanation of the 1982 financial squeeze, and chapter 2 (and section 4.4 below) for evidence on the fuel export upturn in the western data for the first half of 1983

[329] It should be noted that this observation is somewhat tentative at the moment of writing, based on January–September 1983 Soviet data and scattered partner data. The deceleration seems to derive from lagging or declining imports from Cuba and Yugoslavia, whereas those from the east European countries appear to have risen at an unchanged rate – some 6–7 per cent in real terms.

[330] Western export data for the first half of 1983 show an almost 40 per cent increase in the value of machinery (SITC 7) exports to the Soviet Union (Appendix table 4.4.4).

[331] Soviet imports from Iran, Iraq and Libya, all of which supply mainly fuels to the Soviet Union, increased some 50 per cent (to a value of $1.8 billion) in the first nine months of the year alone; under prevailing price trends, this may have meant a 65–70 per cent increase in the *volume* of fuel imports.

### (ii) Trade among centrally planned economies

Reference has been made at various points in the preceding discussion to the two major market areas in which the European centrally planned economies have commercial exchanges – the centrally planned economies and the (developed and developing) market economies. In the following some of the strands are pulled together in the form of a review of the recent experience of the socialist countries in the two marketing areas taken as separate entities.

It should be noted at the outset that trade *among socialist countries* shown in the tables for this section is not identical with the *intra-area* trade of the east European countries and the Soviet Union. Nonetheless, its share in the total is very large, and the trends noted here can be taken as broad approximations of those prevailing in the intra-area trade of the eastern part of the ECE region.[332]

The value of the east European countries' and the Soviet Union's trade with socialist countries has increased at relatively high rates in recent years (a steady 10 per cent per annum in rouble terms in 1981–1983), but most of this increase was due to price changes. In 1982, the *volume* of this trade rose slightly over 1 per cent, and this accelerated to some 3 per cent in 1983. The impetus for this acceleration appears to have been a substantial upswing in trade *among* the east European countries, which rose by an estimated 6 per cent in volume terms – the first significant increase in these exchanges following five years of stagnant or more often declining trade volume. Trade between the east European countries on the one hand and the Soviet Union on the other exhibited roughly the same pattern as in recent years, with perhaps some acceleration. East European exports to the Soviet Union rose by an estimated 6–7 per cent in volume in 1983, much as in the preceding year, while east European imports from the Soviet Union appear to have held steady or declined very slightly, as against a 4 per cent drop in 1982.

The difference between the east European export and import volume changes in trade with the Soviet Union reflects the adjustment of these countries to the rise in the relative cost of their imports, largely fuels and raw materials. In 1982, the combination of strong export volume growth and reduced import volume more than compensated for the decline in east Europe's terms of trade, with the result of a substantial narrowing of the group's trade deficit with the Soviet Union.[333] In 1983, however, the adjustment pace appears to have been insufficient to procure a further reduction in this deficit, and a considerable gap still remains to be closed.[334]

### (iii) Trade with market economies

The data presented in the reviews of the foreign trade experience of eastern Europe and the Soviet Union clearly indicate the emergence of a strong *export* volume surge from the European centrally planned economies to the rest of the world in the last two years. For the group as a whole, export volume appears to have grown at 11–12 per cent in both 1982 and 1983, following several years of much weaker expansion. *Import* growth also rose again in 1983 to a fairly rapid pace – some 5–6 per cent in volume – after two years of stagnation or decline.

It should be noted that these very high rates of change probably reflect a certain rise in the level of re-export activity, for which some evidence was adduced above in the field of fuels trade. While it is not possible to quantify fully the impact of this phenomenon at the moment, rough approximations indicate that it probably accounts for no more than 1 percentage point of the upswing in trade volume.[335]

As prices (measured in dollar terms) declined by some 6–9 per cent for the commodity basket traded by the centrally planned economies with the market economies (see table 4.3.3), this upswing of trade *volume* is not reflected in the changes in trade *value* measured in dollars (table 4.3.7). In fact, the value of the European centrally planned economies' exports to the market economies increased by little over 1 per cent in 1983, as against 6 per cent in the preceding year, and that of their imports actually declined by almost 2 per cent (– 8 per cent in 1982).

Although the data on trade value changes presented in table 4.3.7 thus are somewhat difficult to interpret, in conjunction with the unit values shown in table 4.3.3 they provide a very approximate picture of changes in the east European and Soviet trade with developed market economies on the one hand and developing countries on the other.[336]

Exports from eastern Europe and the Soviet Union to developing countries have tended to grow faster than those to developed market economies in the past two years. Trade value in exports to *developed market economies* increased by some 4 per cent and to *developing countries* by some 9 per cent in 1982; the same values rose by 0 and 4 per cent respectively in 1983. When corrected for the price changes shown in table 4.3.3 for trade with *all* market economies,[337] this would yield an estimate of volume growth which was about the same in both years: 9–10 per cent for exports to the *developed* market economies, and 14–15 per cent for exports to the *developing* countries. The exceedingly high rate of expansion in Soviet exports to the developing countries (some 16–18 per cent in volume growth for the two years under the procedure employed)[338] is primarily responsible for the high growth in trade with developing countries.

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[332] Trade with *socialist countries* includes exchanges with the non-European CMEA member countries (Cuba, Mongolia, Vietnam), other Asian centrally planned economies, and Yugoslavia in addition to the intra-area trade of the east European countries and the Soviet Union. However, intra-area trade proper accounts for the bulk of this total (92 per cent in the case of eastern Europe and 78 per cent in the case of the Soviet Union in 1982, the last year for which complete data are available)

[333] In 1982, the deficit declined by more than 1 billion roubles. The largest part of this, however, reflected the improvement in the Polish balance in trade with the Soviet Union.

[334] A call for a more rapid elimination of the trade imbalance was issued by Prime Minister N. Tikhonov at the CMEA Council meeting in Berlin in late 1983 (*Pravda*, 19 October 1983)

[335] Estimate based on the exclusion of the recorded upswing in east European and Soviet imports from OPEC countries from the rise in trade value with developed and developing market economies

[336] Direct estimates of changes in east-west trade are presented in section 4.4 below. It should be remembered that the geographical coverage of the data on trade with "developed market economies" differs from that applied in section 4.4. On the one hand, it includes the developed economies of the southern hemisphere, and on the other hand it excludes Yugoslavia and Turkey. Owing to this difference in coverage, as well as to some standard mirror data problems, the value and volume changes shown here will not fully coincide with those discussed below.

[337] This approach can be considered only the roughest of approximations, as the commodity composition of trade with developed and developing countries is bound to differ widely, whereas the unit value deflators in table 4.3.3 reflect the commodity structure of the joint trade flows

[338] A pronounced upward bias in this approximation stems from the fact that petroleum exports, where prices declined especially steeply in the last two years, play an insignificant role in Soviet exports to developing countries. However, even if this approximation should be too high by some 5 percentage points, the general conclusion in the text would still hold.

On the import side, a rather more differentiated picture emerges. In 1982, imports of eastern Europe and the Soviet Union from *developed* market economies declined by 7 per cent in value, and those from *developing* countries by some 12 per cent; in volume terms this would yield drops of 2 and 7 per cent respectively. In 1983, imports from *developing* countries revived much more strongly than those from *developed* countries: with a 3 per cent decline in dollar value, imports from developed market economies may have risen by 3–5 per cent in volume, whereas those from developing countries increased by some 2 per cent in value and perhaps 9–11 per cent in volume.

### (iv) Changes in trade balances

The adjustment measures taken by the *east European countries* in the past two years resulted in a dramatic reversal in the *aggregate* trade balance of the group in 1982, a $7 billion improvement from a substantial deficit to the first overall surplus since the early 1970s, and a further gain of more than $1 billion in 1983 (table 4.3.6; see also table 4.3.7 for country data).

Perhaps more significant, the combined trade balance of the east European countries with the *market economies* improved by almost $5 billion in 1982, and by another $1 billion in the following year. All countries of the group but Bulgaria[339] registered gains in their trade position with the market economies in 1982, with especially large advances ($1.3–$1.4 billion) in the German Democratic Republic, Poland and Romania, and smaller ones in Hungary ($0.4 billion) and Czechoslovakia ($0.2 billion). Additional adjustments in 1983 ranged from an estimated $0.9 billion in Romania and $0.3 billion each in Czechoslovakia and Hungary to an unchanged position in Poland, while in Bulgaria and the German Democratic Republic the convertible currency surpluses eroded slightly (by some $0.2 billion in each case).

A significant adjustment, as noted earlier, was registered in 1982 also in the east European trade deficit with *socialist* countries, mainly the Soviet Union, primarily due to an improvement in Poland's external position. In 1983, however, this deficit remained roughly unchanged.

The external position of the *Soviet Union* improved by $3 billion in 1982, based on an even more substantial rise ($4.7 billion) in the surplus with the *market economies*, which was partially offset by the reduction in the surplus with socialist countries noted above. Trade trends in the first three quarters of 1983 and partial data for the full year suggest that there may be another significant increase – of about $2 billion – in this surplus in 1983. The bulk (some 70 per cent) of this increase stems from trade with the *developed market economies*, where after a small deficit in 1982 a surplus in excess of $1 billion was recorded in 1983. The widening surplus with *socialist countries* accounts for the remainder.[340] In trade with the *developing countries*, another substantial surplus was registered.[341]

### (v) Policies and outlook

Developments in the world market will largely determine the outlook for the trade of the European centrally planned economies with the *market economies* in 1984. As was noted in section 4.1, expectations at the moment are cautiously optimistic regarding an upswing in world trade volume. A strengthening of external demand would certainly aid the implementation of the east European external adjustment, which in the preceding two years had to be effected against the currents prevailing in the outside world. In the case of the Soviet Union, the future course of world energy prices will also be an important determinant of export earnings and import demand.

The development in the *intra-CMEA* market, on the other hand, will continue to be dominated by adjustments in the trade between the Soviet Union and eastern Europe stemming from an additional rise in the relative price of energy and fuels. Annual protocols to the medium-term trade agreements between the CMEA member countries, which were negotiated in the last weeks of 1983 and determine minimum trade levels for 1984, point to an increase in trade value of some 11–12 per cent (in rouble terms) in the case of trade between the east European countries and the Soviet Union, and a rise of 7–8 per cent in the value of trade among the east European countries.[342]

TABLE 4.3.6

**Eastern Europe and the Soviet Union: trade balances, 1980–1983**
*(Billions of US dollars)*

| Country group | 1980 | 1981 | 1982 | January-Sept 1982 | January-Sept 1983 | 1983[a] |
|---|---|---|---|---|---|---|
| *Eastern Europe with:* | | | | | | |
| World | −5.8 | −2.7 | 4.4 | 3.0 | 4.0 | 5.5 |
| Socialist countries | −1.6 | −3.1 | −0.8 | −0.6 | −0.3 | −0.9 |
| Developed market economies | −3.8 | −2.9 | 1.3 | 1.1 | 2.2 | 2.8 |
| Developing countries | −0.4 | 3.4 | 3.9 | 2.5 | 2.0 | 3.6 |
| *Soviet Union with:* | | | | | | |
| World | 8.0 | 6.2 | 9.3 | 4.2 | 5.7 | 11.2 |
| Socialist countries | 5.0 | 6.2 | 4.6 | 2.3 | 3.2 | 5.4 |
| Developed market economies | 0.2 | −1.2 | −0.1 | −0.4 | −0.4 | 1.3 |
| Developing countries | 2.7 | 1.2 | 4.8 | 2.3 | 2.9 | 4.4 |

*Source and country groups*: As for table 4.3.7

[a] Preliminary estimates

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[339] Bulgaria, in any case, had been in surplus with the market economies since the mid-1970s, owing to its position with the developing countries.

[340] This stems entirely from trends in trade with socialist countries other than the east European group (mainly Cuba and Yugoslavia), as the surplus with eastern Europe remains roughly at the 1982 level.

[341] Since less than one-half of Soviet exports to developing countries is specified by country of destination (in contrast to imports, which are almost fully specified), the source of this surplus remains unknown.

[342] Based on data from five of the six possible bilateral agreements in the case of east European trade with the Soviet Union, and from 12 out of 15 possible bilateral agreements in intra-trade of the east European countries.

### TABLE 4.3.7

### Eastern Europe and the Soviet Union: changes in foreign trade value and trade balances by partner region, 1971–1983

(*Growth rates in percentage; trade balances in billion US dollars*)

| Country and trade partner group[a] | Growth rates | | | | | | Trade balance, in billion US dollars | | |
|---|---|---|---|---|---|---|---|---|---|
| | Exports | | | Imports | | | | | |
| | 1977–1981 | 1982 | 1983[b] | 1977–1981 | 1982 | 1983[b] | Cumulative 1971–1981 | 1982 | 1983[b] |
| **Bulgaria** | | | | | | | | | |
| World | 14.7 | 7.0 | 6.1 | 13.9 | 6.8 | 5.4 | −0.5 | −0.1 | — |
| Socialist countries | 11.3 | 10.6 | 13.4 | 13.4 | 9.4 | 9.5 | −1.8 | −0.7 | −0.5 |
| Developed market economies | 20.7 | −9.6 | −2.1 | 15.8 | −11.0 | −13.2 | −3.6 | −0.6 | −0.4 |
| Developing countries | 30.4 | 5.3 | −19.0 | 14.8 | 41.6 | 4.5 | 4.8 | 1.3 | 0.9 |
| **Czechoslovakia** | | | | | | | | | |
| World | 10.6 | 4.9 | 5.8 | 8.6 | 5.4 | 6.0 | −4.3 | 0.2 | 0.2 |
| Socialist countries | 9.6 | 8.9 | 7.0 | 9.5 | 10.9 | 9.5 | −1.6 | −0.3 | −0.6 |
| Developed market economies | 12.2 | −4.9 | −3.8* | 6.1 | −9.8 | −4.2* | −5.4 | −0.1 | −0.1* |
| Developing countries | 15.2 | −4.9 | 15.4* | 7.9 | −8.0 | −10.4* | 2.7 | 0.6 | 0.9* |
| **German Democratic Republic** | | | | | | | | | |
| World | 11.8 | 9.5 | 8.5* | 8.9 | 0.1 | 9.2* | −10.7 | 1.5 | 1.5* |
| Socialist countries | 10.2 | 5.5 | 8.9* | 10.1 | 2.2 | 7.2* | 0.3 | — | 0.2* |
| Developed market economies | 14.5 | 15.6 | 8.1* | 7.3 | −7.4 | 13.4* | −11.4 | 0.8 | 1.3* |
| Developing countries | 20.5 | 24.5 | | 2.3 | 22.1 | | 0.4 | 0.7 | |
| **Hungary** | | | | | | | | | |
| World | 12.1 | 1.4 | −1.0 | 10.6 | −3.2 | −3.5 | −6.0 | — | 0.2 |
| Socialist countries | 11.2 | −0.4 | −5.8 | 9.6 | 0.1 | −4.7 | 0.8 | 0.3 | 0.3 |
| Developed market economies | 11.2 | 1.3 | 8.8 | 12.7 | −12.4 | −8.7 | −6.4 | −0.6 | −0.1 |
| Developing countries | 20.1 | 10.5 | −2.1 | 7.7 | 19.2 | 20.9 | −0.4 | 0.2 | — |
| **Poland** | | | | | | | | | |
| World | 3.8 | 6.0 | 3.1 | 2.3 | −14.9 | 2.4 | −19.2 | 1.0 | 1.0 |
| Socialist countries | 3.5 | 17.1 | 5.6 | 9.2 | −2.1 | 4.2 | −3.4 | −0.5 | −0.5 |
| Developed market economies | 2.1 | −6.6 | 2.1 | −7.9 | −29.5 | −5.5 | −17.6 | 0.5 | 0.8 |
| Developing countries | 11.0 | 0.2 | −4.2 | 10.0 | −37.2 | 25.1 | 1.8 | 0.9 | 0.7 |
| **Romania** | | | | | | | | | |
| World | 12.7 | −9.5 | −0.4 | 12.5 | −24.2 | −8.9 | −3.6 | 1.8 | 2.5 |
| Socialist countries | 7.6 | −2.6 | 6.4* | 8.0 | −11.0 | 11.2* | 0.8 | 0.3 | 0.2* |
| Developed market economies | 12.0 | −13.2 | −7.1* | 9.7 | −46.2 | −24.4* | −2.9 | 1.5 | 2.3* |
| Developing countries | 23.0 | −13.6 | | 24.9 | −17.2 | | −1.5 | 0.1 | |
| **Eastern Europe** | | | | | | | | | |
| World | 10.4 | 4.0 | 4.6 | 8.5 | −4.1 | 3.5 | −44.4 | 4.4 | 5.5* |
| Socialist countries | 8.8 | 7.0 | 7.0 | 10.0 | 3.4 | 6.9 | −4.9 | −0.8 | −0.8* |
| *of this*: Eastern Europe | 4.8 | 4.1 | 6.7 | 4.9 | 3.3 | 6.6 | — | — | — |
| Soviet Union | 11.7 | 8.8 | 8.7 | 13.0 | 4.0 | 8.0 | −9.1 | −1.5 | −1.4* |
| Developed market economies | 10.6 | −0.7 | 2.0 | 4.3 | −19.1 | −4.8 | −47.4 | 1.3 | 2.6* |
| Developing countries | 20.0 | — | −1.3 | 14.2 | −6.8 | 1.2 | 7.8 | 3.9 | 3.7* |
| **Soviet Union** | | | | | | | | | |
| World | 16.4 | 9.6 | 5.1 | 13.9 | 6.2 | 3.3 | 26.0 | 9.3 | 11.2 |
| Socialist countries | 14.7 | 8.4 | 7.8 | 13.2 | 14.1 | 6.9 | 22.0 | 4.6 | 5.4 |
| Developed market economies | 18.2 | 8.2 | 2.2 | 12.0 | 3.3 | −3.2 | −18.2 | — | 1.3 |
| Developing countries | 19.4 | 16.3 | 0.8 | 23.8 | −14.6 | 5.0 | 22.2 | 4.8 | 4.4 |

*Source*: Secretariat of the United Nations Economic Commission for Europe, based on national foreign trade statistics. Figures for 1983 are in some cases secretariat estimates based on national trade data for the first 9–11 months, supplemented by trade partner statistics and trend analysis, these may be subject to substantial error margins and should therefore be considered first approximations only.

*Note*: Growth rates and trade balances are based on trade values in terms of US dollars, growth rates may therefore differ from those shown in national statistics. National trade data are converted to dollars at the conversion coefficients used for statistical purposes. In most – but not all – cases these are time-weighted averages of the official "basic" exchange rate against the dollar, as announced by national banks or other authorities.

The measurement of trade value movements over the period 1980–1982 can be distorted by the changes introduced in the foreign trade accounting regimes in Romania (in 1981) and in Poland (in 1982). In both cases, the conventional valuation of foreign trade flows in terms of a special accounting currency unit (*valuta leu, zloty dewizowy*) was abandoned in favour of expressing trade values in terms of the ordinary domestic monetary unit (*leu, zloty*) through the use of conversion rates which, ideally, should approximate purchasing power parity ratios. In both cases, this reform also involved a substantial change in the rouble/dollar cross rate. Owing to the effect of this cross rate change, a direct comparison of trade values in the pre- and post-change year in terms of a third currency (whether this be the rouble or the dollar) will result in a biased image of value change (i.e., one that does not reflect the combined effect of price, volume and international exchange rate changes).

In order to avoid this distortion, a chain-linkage procedure has been employed here. In the case of *Romania*, comparisons between 1980 and 1981 are on the basis of the old (*valuta leu*) valuation for both years, and those between 1981 and 1982 on the basis of the new (leu) valuation for both years. In the case of *Poland*, the 1981 to 1982 comparison is made on the basis of the new (zloty) valuation for both years. These adjustments are also carried into the aggregation for eastern Europe.

[a] The partner country grouping follows the practice of the national statistical sources, which differs from the breakdown usually employed in United Nations publications. Thus "socialist countries" includes Yugoslavia and Cuba, in addition to the east European countries, the Soviet Union and the Asian centrally planned economies. "Eastern Europe" refers to the six east European country members of the CMEA shown separately in the table.

[b] Preliminary. Secretariat estimates indicated by asterisk.

Import demand is likely to increase in the centrally planned economies if the recovery of economic growth noted in 1983 continues to strengthen and in particular if investment increases after a number of slack years, as seems to be the case.

However, balance-of-payments concerns continue to play a key role in the external sector plans of most east European countries for 1984. This is especially true for the convertible-currency relationship, in spite of the evident easing of this constraint after the breakthrough of the last two years. To permit improvements in external liquidity and/or further reductions in the foreign debt, enlarged trade surpluses in convertible currencies or total trade figure explicitly among the plan targets of a number of east European countries (Czechoslovakia, Hungary, Poland and Romania),[343] and a similar target may be implicit in the very sharp reduction in planned trade growth in the German Democratic Republic.[344] After the turnaround of trade balances since 1982, such gains could now be achieved with rising imports, and in some cases even with imports rising faster than exports. Hence a certain relaxation in import policy is now evident in many countries of the group. Even Hungary, where plans call for a very tight rein on import growth in 1984, aims to phase out the system of import barriers announced to GATT in the fall of 1982 (a quota and licence system, as well as tariff surcharges on certain types of imports) in the course of the year.[345] Nonetheless, all of the east European countries have the tools to restrain import growth if required, and in several instances the implementation of planned import allotments is explicitly made contingent on the achievement of export goals in the national plan.

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[343] Czechoslovakia intends to devote 50 per cent of the planned increment in national income to achieve a trade surplus, in part for the purpose of retiring debt principal; Hungary plans a $200–$300 million increase in the convertible-currency trade surplus; Poland envisages a $300 million rise in the trade surplus in convertible currencies (with a 15 per cent increase in exports and a 10 per cent rise in imports); Romania expects to retire 25 per cent of its convertible currency debt which, taking into account changes in debt service requirements, would appear to require almost another $1 billion increase in the country's trade surplus with the market economies.

[344] Trade turnover (exports plus imports) is expected to rise by only 5 per cent in 1984, following a 12 per cent increase in 1983 (see table 4.3.5).

[345] Interview with Mr. Janos Fekete, deputy governor of the National Bank of Hungary (*Financial Times*, 20 January 1984, p.3).

## 4.4 EAST-WEST TRADE

### (i) Introduction

This section dealing with recent developments in east-west trade,[346] along with section 4.1(ii) which covers international financial matters (including east-west finance), is intended to provide an updating of the extensive survey of east-west economic relationships made several months earlier by the ECE secretariat.[347]

Western trade with the Soviet Union continued to expand in both directions in volume terms in the first three quarters of 1983. At the same time, in marked contrast to the steady decline since 1980, the volume of western trade with eastern Europe showed an upturn which was particularly strong for western imports. Western exports started to rise only in the second quarter of 1983. Significantly, the pace of east-west trade flows tended to quicken as the year progressed. Overall, western trade with the east was more dynamic than the trade of the western countries with the world.

In the sections which follow, east-west trade is discussed first in terms of western imports from eastern Europe and the Soviet Union (sub-section (ii)). These flows are analysed on a regional basis, by country of origin and destination and then in terms of changes in commodity composition. The underlying factors which determined western imports are also examined. Western exports are treated in a parallel fashion in sub-section (iii). Finally, sub-section (iv) includes an analysis of recent changes in the western terms of trade, trade balances and eastern current account balances with the developed and developing market economies taken together.

The rise in western imports from the Soviet Union in 1983 is mainly due to a continuation of the strong growth in that country's exports of petroleum and petroleum products which began in 1982. The same factor contributed to the recovery of western imports from eastern Europe in 1983, though the expansion in western import demand also helped. In terms of country of origin, this revival of western imports from eastern Europe resulted from the recovery of import growth from Hungary, Poland and Romania and was reinforced by the continuing import growth from Czechoslovakia and the German Democratic Republic. On the whole, this new development suggests an even greater role for exports in the east European external adjustment process than in previous years.

In 1983, the value of western exports to the Soviet Union developed roughly in line with western imports from that country; at the same time, the commodity composition of western exports changed due to a considerable rise in the Soviet Union's demand for capital goods and a reduced need for agricultural products. The factors determining western exports to eastern Europe have been more complex and their relative importance varies from country to country. They include the growth of eastern export receipts from convertible currency areas, access to new financial credits, attitude toward debt, policies concerning international reserves and much lower requirements for agricultural imports.[348] This situation contrasts with the one prevailing during most of 1982 when reduced access to new credits and debt-servicing necessitated an external adjustment in the form of increased efforts to export to stagnating markets, but more often requiring reductions in imports.

Despite improved western terms of trade 1983 trade volume changes led to a widening of the west's trade deficit with eastern Europe, a phenomenon first recorded in 1982. However, terms of trade changes in favour of the west resulted in a lower trade deficit with the Soviet Union. Eastern Europe's and the Soviet Union's trade surpluses with all market economies (developed and developing jointly) were even larger in 1982, which permitted the current account of the eastern countries' payments balance with the market economies to move into surplus. This is estimated to have increased further in 1983.

### (ii) Western imports: total, by country of origin and by commodity

In volume terms, western imports from *eastern Europe* rose by some 7 per cent in the first three quarters of 1983 – in marked contrast to the declines recorded in each of the three preceding years (see table 4.4.1 and chart 4.4.1).[349] On the other hand, the 7 per cent rise in the volume of western imports from the *Soviet Union* built upon the 10 per cent increase in 1982. This latter performance, however, represented a significant reversal from the developments in the mid-1970s and early 1980s when western import volume growth decelerated and eventually became negative in 1979–1981.

The development of western imports from the east in 1983 has been influenced by a number of factors, not all of which have acted to augment this flow. As is shown below, the overall volume increase owes largely to the ability of the eastern countries to expand sales of petroleum and petroleum products in the west by some 15 per cent (in metric tons) during a period of declining market prices. The expansion of demand in the developed market economies is also likely to have aided eastern exports of manufactured goods and materials. On a regional basis, North America's total imports have grown quite rapidly - by some 6 per cent in volume terms during the first three quarters of 1983 (see section 4.2). Western Europe, which represents a much larger market for eastern exports, had a slower rate of growth of total imports of about 1 per cent in the same period. In fact, in western Europe total import demand appears to have picked up only in the third quarter (calculated

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[346] The term "developed market economies" (or for convenience "west" or "western") as used here refers to the countries of western Europe (including Turkey and Yugoslavia), North America and Japan. This grouping is intended only for statistical convenience. The term "eastern Europe" refers to Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland and Romania taken together; the term "east" or "eastern countries" refers to eastern Europe together with the Soviet Union. The regional grouping "southern Europe" found in several tables includes Greece, Portugal, Spain, Turkey and Yugoslavia; "southern Europe" is always included in the "western Europe" grouping

[347] See *Economic Bulletin for Europe*, vol.35, No.4, chapter 2

[348] These financial aspects are discussed in detail in section 4.1(ii).

[349] Unless otherwise noted, data for 1983 in this section refer to the first three quarters only and should be considered preliminary. Growth rates are for the first three quarters relative to the same period in 1982

TABLE 4.4.1

**East-west trade: value, volumes, prices, terms of trade, 1977-1983**
(*Percentage change over the same period of previous year*)

| Developed market economies with: | Western exports | | | | | | | Western imports | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | Jan–Sept 1983 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | Jan–Sept 1983 |
| | | | | | | | | *Values (in US dollars)* | | | | | | |
| Eastern Europe and the Soviet Union | — | 18 | 19 | 11 | −4 | −7 | −4 | 11 | 13 | 34 | 22 | −8 | — | −2 |
| *of which*: | | | | | | | | | | | | | | |
| Eastern Europe | 1 | 19 | 17 | 9 | −16 | −21 | −7 | 7 | 15 | 25 | 12 | −14 | −8 | 1 |
| Soviet Union | −1 | 16 | 20 | 16 | 8 | 3 | −2 | 14 | 11 | 42 | 31 | −3 | 5 | −4 |
| | | | | | | | | *Volumes* | | | | | | |
| Eastern Europe and the Soviet Union | −10 | 6 | 6 | 4 | 6 | −3 | 1 | 4 | 3 | — | −3 | −8 | 3 | 7 |
| *of which*: | | | | | | | | | | | | | | |
| Eastern Europe | −10 | 3 | 4 | −2 | −5 | −16 | −3 | 4 | 3 | 3 | −2 | −8 | −4 | 7 |
| Soviet Union | −10 | 8 | 7 | 9 | 15 | 5 | 3 | 5 | 3 | −2 | −5 | −8 | 10 | 7 |
| | | | | | | | | *Prices (in US dollars)* | | | | | | |
| Eastern Europe and the Soviet Union | 11 | 11 | 12 | 7 | −9 | −4 | −5 | 7 | 10 | 34 | 25 | 1 | −3 | −8 |
| *of which*: | | | | | | | | | | | | | | |
| Eastern Europe | 12 | 16 | 12 | 11 | −12 | −5 | −5 | 4 | 13 | 22 | 13 | −5 | −4 | −6 |
| Soviet Union | 11 | 7 | 12 | 5 | −6 | −2 | −5 | 9 | 8 | 45 | 35 | 6 | −5 | −10 |
| *World* | | | | | | | | | | | | | | |
| Values | 13 | 20 | 23 | 18 | −2 | −5 | −3 | 14 | 16 | 29 | 20 | −5 | −6 | −5 |
| Volumes | 5 | 6 | 7 | 4 | 2 | −2 | 1 | 5 | 3 | 10 | — | −2 | — | 2 |

*Western terms of trade (1975 = 100)*

| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|
| Eastern Europe and the Soviet Union | 94 | 99 | 99 | 83 | 71 | 64 | 64 | 66 |
| *of which*: | | | | | | | | |
| Eastern Europe | 99 | 106 | 109 | 100 | 97 | 91 | 90 | 91 |
| Soviet Union | 90 | 92 | 91 | 70 | 54 | 49 | 50 | 53 |

*Sources*: United Nations commodity trade data (COMTRADE); OECD, *Statistics on Foreign Trade, Series A*, Paris; IMF, *Directions of Trade* and *International Financial Statistics*, Washington D.C.; United Nations, *Monthly Bulletin of Statistics* (volume indices of total western exports to and imports from the world), national statistics

Price and volume indices: for the methodology and derivation, see United Nations, *Economic Bulletin for Europe*, vol.31, No.1

These data reflect the trade of twenty-three western reporting countries (Appendix table 4.4.1 contains a list of the countries included). Throughout, western data do not include trade between the Federal Republic of Germany and the German Democratic Republic, unless otherwise noted. The same data are used in charts 4.4.1 to 4.4.3. The indices of gross social product of eastern Europe and the Soviet Union used in the charts are based upon the national statistical sources of those countries

on a year-on-year basis), which may partially explain the acceleration observed in eastern exports at the same time.

By contrast, other factors – western trade policies, production bottlenecks in some eastern countries,[350] the weakening competitiveness of eastern manufactured goods in western markets[351] and the adjustment of the east European countries to changing terms of trade within the CMEA, have all tended to constrain the growth of those countries' exports to the west. One aspect of western trade policies toward the eastern countries takes the form of tariff and non-tariff barriers (including quotas). Of these, quantitative restrictions by the European Communities on eastern exports of agricultural goods, steel, clothing and textiles (within the framework of the Multifibre Agreement), and the refusal of MFN tariff treatment by the United States on imports from all eastern countries except Hungary and Romania, are considered to be the most restrictive.

Judging from the number of recent trade disputes among market economies involving, among other commodities, steel, agricultural and textile products, the pressure for protectionist measures in the west has remained strong while disagreement about the use of voluntary restraint agreements, anti-dumping procedures and the subsidization of exports has continued. CMEA exporters probably have also felt the adverse effects of spreading protectionism.[352] However, the extent to which new measures have affected eastern exports in general is difficult to quantify. The imposition of new non-tariff barriers (e.g. voluntary restraint agreements, etc.) is not always publicly reported. An exception here is anti-dumping proceedings, the number of which initiated against CMEA countries has apparently risen. The initiation of such proceedings itself can lead to the curtailment of exports, regardless of the final judgement in these cases (which require the resolution of

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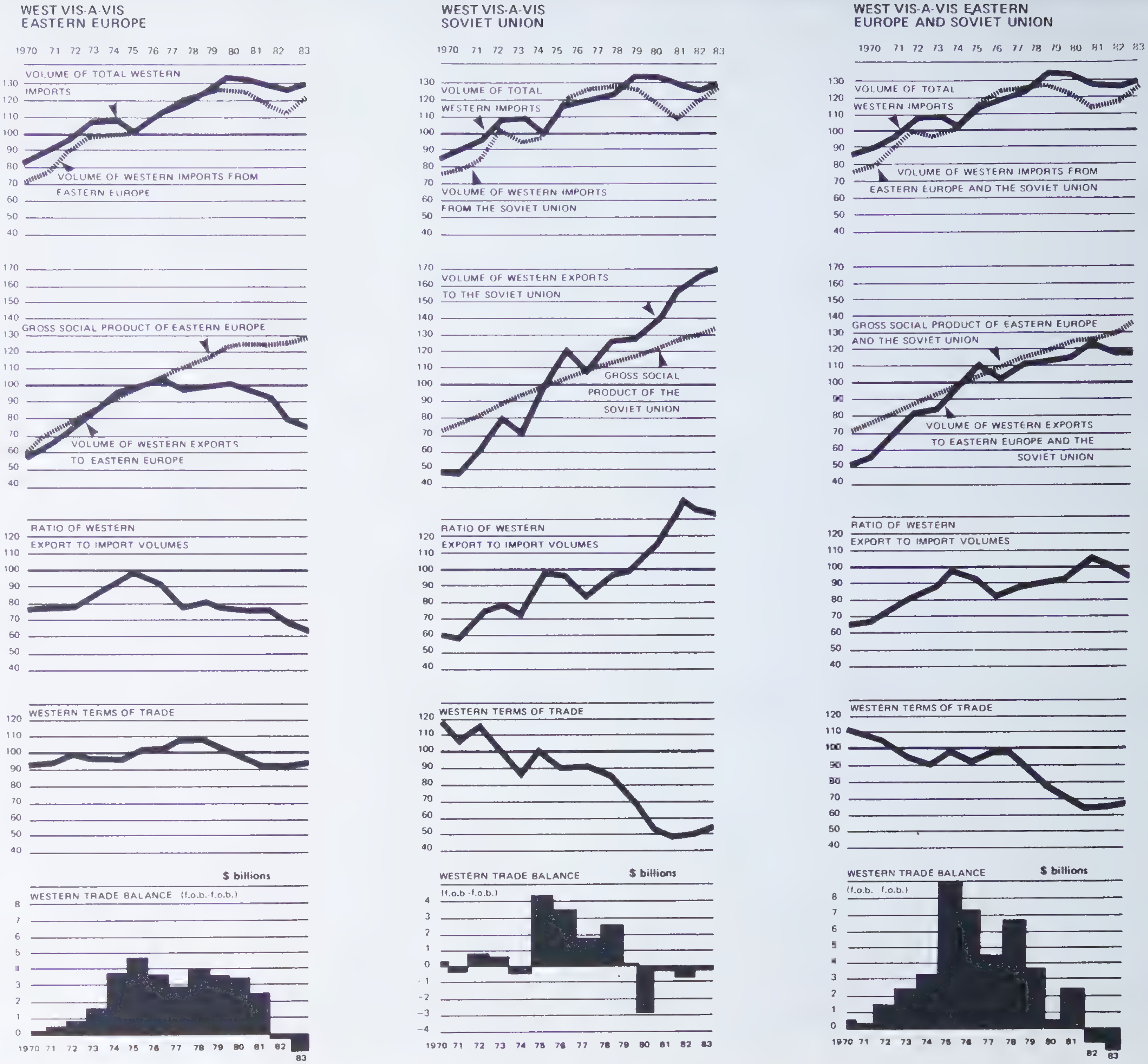
[350] Shortages of imported inputs also appear to have contributed to losses in production and exports to convertible currency areas in Poland, in particular. However, the volume of Polish exports showed a marked improvement in 1983.

[351] See "Exports of manufactures from eastern Europe and the Soviet Union to the developed market economies, 1965-1981, *Economic Bulletin for Europe*, vol.35, No.4, *op. cit*, chapter 3.

[352] The eastern countries often complain that whenever they have managed to increase their penetration of product markets, measures are taken by the importing countries to restrict further advances.

# INTERNATIONAL TRADE OF THE DEVELOPED MARKET ECONOMIES WITH EASTERN EUROPE AND THE SOVIET UNION

Indices 1975 = 100



Source: As for table 4.4.1
Data for 1983 are preliminary estimates

considerable technical difficulties). But, even when sufficient information on new restrictive measures becomes available, a careful analysis, taking into account other possible factors, is necessary to estimate their impact.

All countries of eastern Europe except *Bulgaria* participated in the upswing of western imports from this group, which included the resumption of import growth in volume terms from *Poland* (some 9 per cent), and *Hungary* (7 per cent) – following two consecutive years of decline – and from *Romania* (5 per cent) (table 4.4.2).[353]. Imports from Poland and Romania had fallen by particularly large amounts during 1981–1982. Volume growth from the *German Democratic Republic* (8 per cent) and from *Czechoslovakia* (4 per cent) continued at about the same rates as in 1982.

It appears that through 1982 the eastern countries' response to pressures to adjust to external imbalances with the west came largely in the form of reducing their imports, except for Czechoslovakia and the German Democratic Republic which also managed to expand exports. The figures given above indicate that more recently most eastern countries have emphasized exports even more than before, although some have also continued to rely upon changes in imports to adjust.

After declining since the mid-1970s, the *share* of western imports from *eastern Europe* in total western imports levelled out in 1981–1982 at about 1.5 per cent.[354] In 1983, however, the east European share of the western market increased somewhat. This improvement reflects higher shares gained by all countries except *Bulgaria*. The *Soviet Union's* share of the western market continued to rise in 1983, reaching some 2.3 per cent.

Imports of the individual western countries from the east generally are subject to considerable year-to-year fluctuations. In 1983 *Finland*, the *Federal Republic of Germany*, *Italy*, the *Netherlands*, the *United Kingdom* and the *United States*, all increased imports from the east in volume terms (table 4.4.2, panel B).

The growth of imports from the east into the United States was particularly high in 1983 – probably over 20 per cent in volume terms. Apart from the strong recovery of US import demand (see section 4.2), this also reflects a reversal of the steep

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[353] Based on data in current prices from table 4.4.2 deflated by western import prices in table 4.4.1. The resulting changes in trade *volume* cited here should be considered only as rough approximations.

[354] See Appendix table 4.4.2.

TABLE 4.4.2

**East-west trade: change in trade value, by country: 1979-1983**
(*Percentage change in US dollar terms*)

| | Panel A | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| To/From | Western exports | | | | | Western imports | | | | |
| | 1979 | 1980 | 1981 | 1982 | 1983[a] | 1979 | 1980 | 1981 | 1982 | 1983[a] |
| Bulgaria | 14 | 31 | 14 | −17 | — | 53 | 12 | −13 | −5 | −7 |
| Czechoslavakia | 20 | 11 | −16 | −3 | −4 | 27 | 18 | −11 | −2 | −1 |
| German Democratic Republic[b] | 32 | 9 | −8 | −11 | 14 | 24 | 24 | −4 | 4 | 2 |
| Hungary | 1 | 11 | −1 | −9 | −9 | 27 | 11 | −10 | −7 | 1 |
| Poland | 8 | 8 | −33 | −24 | −8 | 16 | 9 | −34 | −6 | 3 |
| Romania | 26 | 4 | −22 | −43 | −31 | 36 | 6 | — | −26 | −1 |
| Eastern Europe[b] | 17 | 10 | −16 | −18 | −4 | 26 | 13 | −13 | −6 | — |
| Soviet Union | 20 | 16 | 8 | 3 | −2 | 42 | 31 | −3 | 5 | −4 |
| Eastern Europe and Soviet Union[b] | 18 | 12 | −4 | −6 | −3 | 34 | 22 | −8 | — | −2 |
| World | 23 | 18 | −2 | −5 | −3 | 29 | 20 | −5 | −6 | −4 |
| | Panel B | | | | | | | | | |
| Reporting country | Western exports to eastern Europe and the Soviet Union | | | | | Western imports from eastern Europe and the Soviet Union | | | | |
| Austria | 20 | 5 | −14 | −4 | 4 | 27 | 34 | 6 | −13 | −10 |
| Belgium | 24 | 24 | −15 | −18 | 25 | 29 | 53 | −10 | 27 | −13 |
| Finland | 3 | 55 | 32 | 1 | −5 | 47 | 45 | −1 | −1 | 1 |
| France | 38 | 15 | −16 | −28 | 20 | 28 | 62 | −6 | −14 | −6 |
| Germany, Federal Republic[c] | 13 | 9 | −20 | −1 | 5 | 42 | 7 | −11 | 2 | −4 |
| Italy | 9 | 3 | −10 | −1 | 12 | 32 | 41 | −10 | 10 | 1 |
| Netherlands | 22 | 24 | −2 | −28 | 10 | 49 | 26 | 16 | 24 | — |
| United Kingdom | 9 | 28 | −23 | −26 | −1 | 30 | — | −44 | 18 | 2 |
| Yugoslavia | 14 | 62 | 24 | — | −10 | 23 | 40 | — | −1 | — |
| United States | 54 | −32 | 11 | −16 | −38 | 8 | 4 | 13 | −31 | 18 |
| Japan | 2 | 10 | 12 | 11 | −14 | 34 | −4 | −17 | −12 | −14 |

*Source*: As for table 4.4.1. Appendix table 4.4.1 contains data for all western countries

[a] January-September, over the same period in 1982.

[b] Including trade between the Federal Republic of Germany and the German Democratic Republic

[c] Excluding trade between the Federal Republic of Germany and the German Democratic Republic

contraction of US imports from the east in 1982. In spite of expansion well above the growth of total United States imports, however, this flow remains some 13 per cent below the level reached in 1981. Most eastern exporters shared in this upswing (see table 4.4.3). In volume terms, only the imports from the German Democratic Republic stagnated, while those from Poland continued to decline in 1983, perhaps owing in part to the suspension of MFN treatment of Polish goods at the end of 1982.[355]

In terms of its *commodity structure*,[356] the upswing in the volume of western imports from *eastern Europe* reflects mainly rapid growth in imports of *mineral fuels* (SITC 3): they expanded by about 30 per cent in volume during the first half of 1983, originating in almost all east European countries. Smaller effects can be attributed to *food* (SITC 0), exclusively as a result of higher imports from Poland, *chemicals* (SITC 5) – all east European countries having increased sales in volume terms except Bulgaria and Romania – and *miscellaneous manufactures* (SITC 8), apparently mainly from Hungary.

The growth of western imports from individual eastern countries appears to have been most broadly based in terms of SITC sections in the case of the German Democratic Republic, Hungary and Poland. Aside from higher imports of *fuels* and *chemicals* from all three of these countries, *crude materials* and possibly *SITC 6 manufactured goods*[357] were imported in greater volumes from the German Democratic Republic; *machinery and transport equipment* (SITC 7) and *miscellaneous manufactures* from Hungary; and *food* from Poland.

The rise in western imports from the *Soviet Union* was also broadly based in terms of commodities. Although the higher volume of *fuels* provided the main impulse (some 6 per cent), increased quantities of *chemicals, food, SITC 6 manufactured goods, machinery and transport equipment* and the products of several less important SITC sections also contributed.

The large increases in western fuel imports reported above (based on COMTRADE), is corroborated by OECD data on crude oil and petroleum product imports for the first three quarters of 1983 (table 4.4.4). These two commodities account for only a part of the fuels category (coal, chiefly from Poland,[358] and natural gas, exclusively from the Soviet Union), making up the remainder.[359] A part of the Soviet Union's incremental exports of oil to the west in 1982 and 1983 and of

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[355] The international legal basis advanced for the action was a determination by the United States government that Poland has failed to fulfil a GATT obligation. United Nations, Economic Commission for Europe, *A Profile of the East-West Trade of the United States, 1970–1983*, TRADE/R.462/Add.3, p.18. United States imports from Poland in the first three quarters of 1983 show a marked rise in agricultural products. However, this was more than offset by smaller purchases of manufactured goods (except chemicals), which would be the most adversely affected by the loss of MFN tariff treatment.

[356] It should be noted that the data used for analysis of the commodity structure of east-west trade (see Appendix table 4.4.3) cover only the period January–June and reflect a sample of only 15 western reporting countries. Accordingly, the figures for the growth of total western exports and imports will differ from those found in table 4.4.1, table 4.4.2 and Appendix table 4.4.1, which reflect all 23 western reporting countries and cover the period January–September. See also *Economic Bulletin for Europe*, vol.35, No.4, *op. cit.*, for an analysis of 1977–1982 east-west trade by commodity.

[357] SITC 6 manufactured goods (goods classified chiefly by materials) are important in east-west trade. Western imports of this commodity category include textiles and clothing, iron and steel, etc. – goods with relatively large shares in western imports from eastern Europe. The category also includes pipes which is often important in western exports to the Soviet Union.

[358] Poland's coal exports to non-socialist countries rose by 43 per cent from 14.2 million tons in 1982 to 20.3 million tons in 1983. However, not all of this increase in shipments is reflected in the COMTRADE data (Appendix table 4.4.3) which covers only the first half year.

[359] The OECD figures for oil and oil product imports from eastern Europe and the Soviet Union (table 4.4.4) result in a higher increase in fuel imports than the estimates based on the United Nations trade data base. Aside from the coverage differences regarding countries, products and period (probably not very important in this case), the discrepancies in the two sets of data may also be attributed to reporting. Since Belgium and the Netherlands report their trade statistics on "special" basis, their imports of oil and oil products sold on their spot markets and subsequently re-exported are not represented in the COMTRADE data. Accordingly the United Nations trade data would appear to show smaller western imports of oil and oil products from the centrally planned economies than the OECD oil statistics because other countries might report these flows as purchases from Belgium and the Netherlands.

TABLE 4.4.3

**United States: trade with eastern Europe, the Soviet Union and the world, 1982-1983**

| | Exports | | | Imports | | | Balances | |
|---|---|---|---|---|---|---|---|---|
| | Shares | Percentage change | | Shares | Percentage change | | Millions of US dollars | |
| Partner country and group | 1983[a] | 1982 | 1983[b] | 1983[a] | 1982 | 1983[b] | 1982 | 1983[c] |
| Bulgaria . . . . . . . . . | 0.03 | –59 | –43 | 0.01 | –17 | 17 | 77 | 26 |
| Czechoslovakia . . . . . | 0.02 | 1 | –51 | 0.03 | –7 | –3 | 19 | –22 |
| German Dem. Rep. . . . . | 0.06 | –25 | –50 | 0.02 | 13 | –6 | 166 | 57 |
| Hungary . . . . . . . . . | 0.06 | –13 | 75 | 0.07 | 4 | 23 | –71 | –53 |
| Poland . . . . . . . . | 0.20 | –57 | 26 | 0.08 | –43 | –11 | 73 | 172 |
| Romania . . . . . . . . | 0.09 | –56 | –26 | 0.18 | –38 | 23 | –140 | –280 |
| Eastern Europe . . . . | 0.46 | –48 | –17 | 0.39 | –31 | 11 | 124 | –100 |
| Soviet Union . . . . . . | 0.74 | 10 | –46 | 0.14 | –31 | 46 | 2 356 | 1 065 |
| Eastern Europe and the Soviet Union . . | 1.20 | –16 | –38 | 0.53 | –31 | 18 | 2 480 | 966 |
| World . . . . . . . . . | 100 | –9 | –8 | 100 | –7 | 2 | –42.6[d] | –69.7[d] |

*Sources*: As for table 4.4.1, and Council of Economic Advisors "Annual Report" February 1984

[a] Eastern shares of total United States trade in first three quarters of 1983

[b] First three quarters relative to same period in 1982.

[c] Extrapolated on the basis of trends in imports and exports for the first three quarters

[d] United States trade balance (*f.o.b.-f.o.b.*) in billions of US dollars

TABLE 4.4.4

**OECD: imports of crude oil and products from eastern Europe and the Soviet Union, 1980–1983**
*(In millions of metric tons)*

| Imports from: | 1980 | 1981 | 1982 | January–September<br>1982 | <br>1983 | <br>% change |
|---|---|---|---|---|---|---|
| *Eastern Europe* | | | | | | |
| Crude oil | 1.4 | 1.4 | 1.0 | 0.7 | 2.1 | 185.0 |
| Products | 11.1 | 9.0 | 8.8 | 6.1 | 8.3 | 35.2 |
| Total | 12.5 | 10.5 | 9.8 | 6.9 | 10.4 | 51.1 |
| *Soviet Union* | | | | | | |
| Crude oil | 33.4 | 29.4 | 36.8 | 27.2 | 31.0 | 13.7 |
| Products | 23.6 | 24.1 | 32.2 | 23.7 | 24.8 | 4.9 |
| Total | 57.0 | 53.6 | 69.0 | 50.9 | 55.8 | 9.6 |

*Source*: OECD, *Quarterly Oil Statistics, Third Quarter 1983*, Paris, 1983

east European sales in 1983 appear to have been re-exports of oil from certain OPEC countries.

### (iii) Western exports: total, by country of destination and by commodity

The *volume* of western exports to the *Soviet Union* has risen in every year during the past decade, except in 1974 and 1977. The 3 per cent increase in the first three quarters of 1983 represents a further slackening of the high growth rates recorded in the five previous years. Nevertheless, this growth rate is higher than that of western exports to the world, as, in fact, the volume growth of western exports to the Soviet Union has tended to be for some time (see table 4.4.1 and chart 4.4.2). In the second quarter of 1983, there was a recovery in western exports to *eastern Europe*, which represents the first growth in this trade flow since 1979. However, despite this upturn and subsequent growth in volumes, the figures for the first three quarters taken together still show a 3 per cent decline (table 4.4.1 and chart 4.4.1).

In 1983, western exports to the east were influenced by changes in the rate of eastern Europe's external adjustment and developments in the financial sphere.[360] Although eastern Europe's external adjustment continued vis-à-vis the west and other market economies, its pace now permitted, in contrast to previous years, some increase in import growth from the west. The necessary adjustment of external imbalances undergone during the past few years, first in response to a rising debt service burden and then, in addition, to the progressive reduction in access to new credits, had been an important factor depressing the level of east European imports from the west. In general, eastern attempts to eliminate these imbalances took the form of intensified efforts to export, but, in the face of stagnant demand in world markets, more often required the curtailment of imports.[361] As is shown below, this process has gone on for several years. However, the breakthrough occurred in 1982, resulting in a profound drop in eastern imports and the switch from a long-lasting east European current account deficit to surplus. In most cases, it appears that the current account surpluses achieved in 1982 and 1983 (see below), along with some borrowing, have permitted the servicing of debt as well as some rebuilding of reserves.

Having achieved a more favourable external position in 1983, most east European countries seem to have linked the development of their imports to their export revenues from convertible currency areas. In this regard the upswing in east European exports in 1983 provided an additional impetus to import growth.

A number of developments in the financial sphere would, individually, probably have had an important effect on eastern import demand, but their net effect is difficult to evaluate. On the one hand, eastern demand for western exports is likely to have been enhanced by the lower debt service burden in 1983 and by the flow of financial credits. The resumption of commercial lending to the east (at relatively low levels), the continued availability of official and officially backed credits to most eastern countries, loans to Hungary and Romania from international financial organizations and finally, the rescheduling of Romania's and Poland's debt (along with some new credits to Poland through recycled interest payments) have had a positive effect on the east's capacity to import.

On the other hand, eastern Europe's rebuilding of international reserves (which had dropped to extremely low levels in the third quarter of 1982) has tended to create a temporary downward pressure on eastern import demand. Also acting in this direction has been the decision by a number of eastern countries to reduce external indebtedness.

The data on changes in the value of western exports by country of destination (table 4.4.2, panel A) indicate that the decline in exports to eastern Europe as a whole in 1983 was stemmed by a rapid rise in shipments to the *German Democratic Republic* (close to 20 per cent in volume terms),[362] as well as a rise in the volume of exports to *Bulgaria* (some 5 per cent) and *Czechoslovakia* (1 per cent). The rise in western exports to the German Democratic Republic represents a marked reversal from 1981–1982, when exports had dropped steeply. In the case of Bulgaria, the volume expansion in 1983 suggests a reversion to the pattern prevailing before 1982. However, these gains in western exports to eastern Europe were more than offset by lower deliveries to *Hungary*,[363] *Poland* and especially to *Romania* (in volume terms some 4, 3 and 26 per cent, respectively). Whereas the rate of contraction in western exports to Poland eased noticably in 1983 relative to 1981–1982, in the case of Romania the downslide continued to be very steep.

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[360] The financial issues raised here are discussed more extensively in section 4.1(ii)

[361] Various policy instruments are available for achieving such objectives although the mix used would probably vary from country to country. These include import licensing requirements, convertible currency authorizations, quotas, tariffs, or centralized directives to the foreign trade organizations

[362] The rise in western exports to the German Democratic Republic was highly concentrated, originating largely (in order of importance) in the Federal Republic of Germany, Japan, Canada (presumably reflecting an increase in grain exports within the framework of the 1983 agreement between the two countries) and Austria. Exports of most other western countries declined, often sharply

[363] This development of Hungarian imports reflects not only changes in domestic economic policies but also the introduction of temporary import restrictions on 1 September 1982 in accordance with Article XII of the GATT. This consisted of import quotas mainly for agricultural and industrial raw materials and a 20 per cent surcharge on imports of components and spare parts from convertible currency sources

Exports of the individual *western countries* to the east tend to fluctuate significantly from year to year, making the identification of trends difficult. Particularly large increases in export volumes were registered by *Belgium*, *France*, *Italy* and the *Netherlands*, while exports of the *United States*[364] fell by over 30 per cent (see table 4.4.2, panel B).[365]

The *share of total western exports* going to both eastern Europe and the Soviet Union rose slightly in 1983.[366] The importance of *eastern Europe* in the western export structure had peaked in 1975 at 2.8 per cent. It declined thereafter, bottoming out in 1982 at about 1.5 per cent. *Bulgaria*, *Czechoslovakia*, and especially the *German Democratic Republic* were responsible for the reversal of the downward trend in 1983, while the share of *Romania* in the west's export structure continued to fall. By contrast, the share of western exports destined for the *Soviet Union* continued to rise, prolonging a trend which started in the late 1970s.

A large increase in western exports of *machinery and equipment* (over 40 per cent in volume terms), along with a smaller rise in *SITC 6 manufactured goods*, accounted for the continuing increase in western exports to the *Soviet Union*.[367] At the same time, *food* sales (mainly by the United States) fell off sharply.

Lower western *food* exports to most countries except the German Democratic Republic, with especially sharp drops in exports to Poland and Romania, also contributed to the overall decline in western exports to *eastern Europe*. Export volumes of all other commodities, including all manufactured goods sections (probably with the exception of *miscellaneous manufactures*) appear to have fallen.

Exports to the German Democratic Republic, which were particularly strong in 1983, owed largely to considerably higher deliveries of *machinery and transport equipment* and *miscellaneous manufactures*, which grew by some 40 and 50 per cent respectively, in volume terms. Sales to Poland of goods in the same two categories also rose rapidly, as did those of *SITC 6 manufactured goods* (by over 50 per cent) and of *crude materials*.

One of the features of east-west trade in 1983 was the tendency for the pace to quicken as the year progressed (in this case through the third quarter): the volume growth of trade between the west and the Soviet Union was fastest in the third quarter, while the growth rate of western imports from eastern Europe accelerated throughout the period. Although western exports to eastern Europe show a 3 per cent fall for the first three quarters taken as a whole, this outcome is entirely due to the first quarter since export volumes rose in the next half year. Moreover, preliminary estimates suggest that the momentum was maintained in the final quarter. Significantly, this is the first rise in exports to eastern Europe since 1979.

In general those countries which managed to increase exports to the west in some quarters in 1983 appeared to respond either by raising imports (sometimes with a lag) or by sharply curtailing the rate of import decline. As a result of these adjustments in trade flows, projected eastern trade balances with the west for the entire year showed little or no change in successive estimations. These developments suggest that the eastern countries responded to their increased export growth by changing the flow of imports within limits permitted by targets established for trade balances.

### (iv) Western terms of trade, trade balances and eastern current account balances

In 1983, *prices* in east-west trade continued to fall in US dollar terms (see table 4.4.1). Western export prices reflect largely manufactured goods, the prices of which fell, owing to the appreciation of the US dollar (see section 4.1). The trends in the average price of western imports from the Soviet Union, on the other hand, is determined to a considerable extent by the price of fuels in international markets. Fuels play a smaller but still important role in the average price of imports from eastern Europe, the trends of which are largely determined by the prices of manufactured goods. As a result of the relatively larger decline in fuel prices (of the order of 10–12 per cent), western *terms of trade* with *eastern Europe* improved for the first time since 1978 while those with the *Soviet Union* improved for the second year. As in 1982, the further appreciation of the US dollar tended to limit western gains in the terms of trade.

In 1982, for the first time since the 1960s, the western *trade balance* with the east had changed from a surplus to a deficit. Extrapolations of trends for the first three quarters of 1983 for the entire year suggest a further widening of this deficit to over $1 billion. This turnaround, which is reflected in both eastern and western trade statistics, highlights the profound changes which have taken place in east-west economic relationships during the past two years.

The trade surplus of the *developed market economies* vis-à-vis *Eastern Europe* turned to a deficit of $0.2 billion in 1982 after having varied between $2.4 and $4.6 billion in 1974–1981 (table 4.4.5). Trade flows during the first three quarters of 1983 resulted in a deficit of $1.2 billion;[368] an extrapolation of the trade performance during this period to the year as a whole yields an estimated western deficit of the same magnitude. Though this $1.0 billion increase in the western deficit in 1983 represents a smaller change than the $2.6 billion change from surplus to deficit in 1982, it nonetheless indicates that the process of eastern external adjustment vis-à-vis the west continued in 1983.

Table 4.4.6 gives an idea of the magnitude of eastern Europe's annual external adjustment as measured by changes in its trade balance. In almost all years, eastern Europe has reduced its deficits with the west or increased its surplus (1983). Up through 1981, the net inflow of tradeable resources available for domestic use contracted, while thereafter a net outflow occurred.

In trade with the *Soviet Union*, the west recorded another deficit (of some $0.7 billion) in 1982. This was noteworthy

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[364] In the first three quarters of 1983, United States exports of all one-digit SITC commodity sections with the exception of *miscellaneous manufactures* (SITC 8) declined in value terms, but cereals (SITC 04) accounted for the bulk of the reduction (also see table 4.4.3)

[365] See section (ii) for deflation procedure.

[366] See Appendix table 4.4.2.

[367] See Appendix table 4.4.4

[368] Attention may be drawn to differences in the trade balances between east and west as calculated, on the one hand, from western statistical sources and, on the other, from eastern national sources (see table 4.4.5). Differences in trade balances calculated from these two sets of data have been a feature of east-west trade (and other trade flows as well).

During the 1970s western trade surpluses with eastern Europe, as calculated from western data, were always smaller than those based on eastern sources. In 1980–1981, these differences in trade balances vanished, but reappeared in 1982–1983. However, in this latter period the western trade deficits calculated from western data are smaller than those calculated from eastern sources. The same is true of the western trade deficit with the Soviet Union estimated for 1983

One possible reason for the widening of this gap between the two sets of trade balances may relate to sales of oil and oil products by the east in western spot markets and the differences in the treatment of these flows in eastern and western trade statistics (see discussion in section 4.4(ii)).

### Table 4.4.5

### East-west trade: trade balances, 1974–1983

*(Billions of US dollars f.o.b.-f.o.b.)*

| | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983[a] | Jan.-Sept. 1982 | Jan.-Sept. 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. *Developed market economies with:*[b] | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | 3.5 | 8.8 | 7.0 | 4.7 | 6.7 | 3.7 | 0.5 | 2.2 | −0.9 | −1.4 | −1.1 | −1.6 |
| *of which*: Eastern Europe | 3.6 | 4.6 | 3.6 | 2.9 | 4.0 | 3.5 | 3.3 | 2.4 | −0.2 | −1.2 | −0.4 | −1.2 |
| Soviet Union | −0.1 | 4.2 | 3.4 | 1.8 | 2.7 | 0.2 | −2.9 | −0.2 | −0.7 | −0.2 | −0.7 | −0.4 |
| *Western Europe with:*[bc] | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | 2.8 | 5.3 | 2.2 | 1.5 | 2.0 | −2.7 | −5.2 | −4.6 | −8.4 | −6.9 | −6.4 | −5.3 |
| *of which*: Eastern Europe | 3.0 | 3.7 | 2.6 | 2.1 | 3.0 | 1.8 | 1.2 | 1.1 | −1.0 | −1.9 | −0.9 | −1.6 |
| Soviet Union | −0.3 | 1.6 | −0.4 | −0.6 | −1.0 | −4.5 | −6.4 | −5.7 | −7.4 | −5.0 | −5.5 | −3.7 |
| *Southern Europe with:* | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | −0.2 | −0.1 | −0.3 | −0.7 | −0.5 | −1.0 | −0.6 | 0.2 | 0.4 | −0.4 | 0.2 | −0.4 |
| *of which*: Eastern Europe | −0.2 | −0.3 | −0.4 | −0.5 | −0.5 | −0.6 | −0.3 | −0.3 | −0.2 | −0.5 | −0.2 | −0.4 |
| Soviet Union | — | 0.2 | 0.1 | −0.1 | — | −0.4 | −0.3 | 0.5 | 0.6 | — | 0.4 | — |
| *North America with:* | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | 0.5 | 2.5 | 3.2 | 2.0 | 3.0 | 5.0 | 4.0 | 4.3 | 4.4 | 2.8 | 3.4 | 2.1 |
| *of which*: Eastern Europe | 0.3 | 0.5 | 0.7 | 0.3 | 0.5 | 1.2 | 1.6 | 0.8 | 0.3 | — | 0.3 | — |
| Soviet Union | 0.3 | 2.0 | 2.6 | 1.7 | 2.4 | 3.9 | 2.4 | 3.6 | 4.0 | 2.8 | 3.1 | 2.1 |
| *Japan with:* | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | 0.2 | 1.0 | 1.6 | 1.2 | 1.7 | 1.3 | 1.7 | 2.4 | 3.1 | 2.7 | 1.9 | 1.6 |
| *of which*: Eastern Europe | 0.3 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.4 | 0.7 | 0.2 | 0.4 |
| Soviet Union | −0.1 | 0.6 | 1.2 | 0.7 | 1.2 | 0.8 | 1.1 | 1.9 | 2.7 | 2.0 | 1.6 | 1.2 |
| B. *Developed market economies with:*[d] | | | | | | | | | | | | |
| Eastern Europe and Soviet Union | 4.3 | 10.6 | 9.3 | 6.0 | 8.3 | 4.0 | 0.8 | 3.2 | −2.3 | −3.7 | −0.3 | −2.1 |
| *of which*: Eastern Europe | 5.0 | 6.1 | 6.0 | 5.3 | 5.5 | 4.6 | 3.3 | 2.4 | −1.7 | −2.5 | −1.1 | −2.3 |
| Soviet Union | −0.6 | 4.5 | 3.3 | 0.7 | 2.8 | −0.6 | −2.4 | 0.7 | −0.6 | −1.2 | 0.9 | 0.2 |

*Sources*: As for table 4.4.1 (western data) and table 4.3.1 (eastern data)

*Note*: Section A is based on western data which has been adjusted to an *f.o.b.-f.o.b.* basis by the secretariat; section B is based on eastern national sources. A positive balance indicates a surplus for the developed market economies.

[a] Extrapolated, assuming a continuation of January September trends of exports and imports

[b] Excluding trade between the Federal Republic of Germany and the German Democratic Republic

[c] Southern Europe is included in western Europe

[d] Including trade between the Federal Republic of Germany and the German Democratic Republic.

### TABLE 4.4.6

### Eastern Europe: change in trade balances with developed market economies and with all market economies, 1975–1983

(*In billions of US dollars*)

| Partner regions | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983[a] |
|---|---|---|---|---|---|---|---|---|---|
| *Developed market economies* | | | | | | | | | |
| Western data | 1.0 | −1.0 | −0.7 | 1.1 | −0.5 | −0.2 | −0.9 | −2.6 | −1.0 |
| Eastern data | 1.1 | −0.1 | −0.7 | 0.2 | −0.9 | −1.3 | −0.9 | −4.1 | −0.8 |
| *Market economies*[b] | | | | | | | | | |
| Eastern data | 0.5 | 0.4 | −1.0 | 0.2 | −0.1 | −0.6 | −4.6 | −4.8 | −0.8 |

*Source*: Tables 4.4.1 and 4.4.5 (western data); tables 4.3.1 and 4.4.5 (eastern data).

*Note*: A negative sign indicates that an east European deficit was reduced or a surplus enlarged.

[a] See footnote atable 4.4.5.

[b] Developed and developing market economies.

### TABLE 4.4.7

### East-west trade: trade balances, 1978–1983

(*Billions of US dollars*)

| | | | | | | | Jan. Sept | |
|---|---|---|---|---|---|---|---|---|
| | 1978 | 1979 | 1980 | 1981 | 1982 | 1983[a] | 1982 | 1983 |
| | Panel A | | | | | | | |
| A. *Developed market economies with*: | | | | | | | | |
| Bulgaria | 0.51 | 0.33 | 0.63 | 1.03 | 0.75 | 0.8 | 0.57 | 0.61 |
| Czechoslovakia | 0.17 | 0.03 | −0.16 | −0.32 | −0.33 | −0.4 | −0.49 | −0.54 |
| German Dem. Rep.[b] | 0.48 | 0.92 | 0.36 | 0.12 | −0.68 | −0.1 | −0.58 | −0.16 |
| Hungary | 1.04 | 0.50 | 0.56 | 0.85 | 0.72 | 0.4 | 0.51 | 0.28 |
| Poland | 1.40 | 1.17 | 1.23 | 0.86 | 0.01 | −0.3 | 0.03 | −0.23 |
| Romania | 0.68 | 0.62 | 0.58 | −0.36 | −0.80 | −1.3 | −0.58 | −1.00 |
| Eastern Europe[b] | 4.28 | 3.58 | 3.19 | 2.18 | −0.34 | −0.8 | −0.54 | −1.04 |
| Soviet Union[b] | 2.69 | 0.19 | −2.88 | −0.23 | −0.67 | −0.2 | −0.70 | −0.40 |
| Eastern Europe and Soviet Union | 6.97 | 3.77 | 0.31 | 1.95 | −1.01 | −1.0 | −1.24 | −1.44 |
| | Panel B | | | | | | | |
| B. *Reporting country* (balance with eastern Europe and Soviet Union) | | | | | | | | |
| Austria | 0.33 | 0.29 | −0.18 | −0.61 | −0.35 | −0.1 | −0.33 | −0.13 |
| Belgium-Luxembourg | 0.07 | 0.05 | −0.23 | −0.28 | −0.86 | −0.4 | −0.63 | −0.31 |
| Finland | 0.08 | −0.65 | −0.75 | 0.19 | 0.28 | — | 0.36 | 0.19 |
| France | 0.47 | 0.89 | −0.43 | −0.86 | −1.31 | −0.4 | −1.06 | −0.44 |
| Germany, Fed. Rep. of[c] | 2.28 | 0.97 | 1.18 | 0.27 | 0.04 | 0.7 | −0.17 | 0.34 |
| Italy | −0.19 | −0.81 | −2.15 | −1.90 | −2.34 | −2.1 | −1.83 | −1.65 |
| Netherlands | −0.21 | −0.57 | −0.74 | −1.12 | −2.12 | −2.0 | −1.38 | −1.30 |
| United Kingdom | −0.27 | −0.73 | −0.14 | 0.47 | −0.33 | −0.3 | −0.24 | −0.27 |
| Yugoslavia | −0.25 | −0.51 | −0.12 | 0.91 | 0.97 | 0.5 | 0.61 | 0.24 |
| United States | 2.41 | 4.31 | 2.43 | 2.66 | 2.48 | 1.0 | 2.14 | 0.85 |
| Japan | 1.72 | 1.28 | 1.69 | 2.44 | 3.09 | 2.7 | 1.89 | 1.61 |

*Source*: As for table 4.4.1. Appendix table 4.4.1 contains data for all western countries

*Note*: A positive balance indicates a surplus for the developed market economies

[a] Extrapolated, assuming a continuation of January–September trends of exports and imports

[b] Including trade between the Federal Republic of Germany and the German Democratic Republic

[c] Excluding trade between the Federal Republic of Germany and the German Democratic Republic

TABLE 4.4.8

**Estimated current account balance of payments of eastern Europe and the Soviet Union with market economies, 1980–1983**
*(Billions of US dollars)*

| | Trade balances[a] with market economies | | Net services plus transfers[c] | | |
|---|---|---|---|---|---|
| | Total | of this: DME[b] | Total | Investment income | Current account |
| *Bulgaria* | | | | | |
| 1980 | 1.0 | 0.1 | −0.1 | −0.4 | 1.0 |
| 1981 | 0.7 | −0.6 | — | −0.3 | 0.7 |
| 1982 | 0.7 | −0.5 | −0.1 | −0.2 | 0.6 |
| 1983[d] | 0.4 | −0.4 | — | −0.1 | 0.5 |
| *Czechoslovakia* | | | | | |
| 1980 | — | 0.4 | −0.4 | −0.3 | −0.4 |
| 1981 | 0.3 | −0.3 | −0.5 | −0.5 | −0.2 |
| 1982 | 0.4 | — | −0.4 | −0.4 | — |
| 1983[d] | 0.7 | −0.2 | −0.3 | −0.3 | 0.4 |
| *German Democratic Republic* | | | | | |
| 1980 | −1.7 | −1.7 | −0.1 | −1.2 | −1.8 |
| 1981 | — | −0.5 | −0.4 | −1.6 | −0.4 |
| 1982 | 1.5 | 0.7 | — | −1.3 | 1.5 |
| 1983[d] | 1.2 | 0.4 | 0.4 | −0.9 | 1.7 |
| *Hungary*[a,e] | | | | | |
| 1980 | −0.7 | −0.6 | −0.6 | −0.4 | −1.2 |
| 1981 | −0.8 | −1.0 | −1.2 | −1.1 | −1.9 |
| 1982 | −0.3 | −0.6 | −0.8 | −1.0 | −1.1 |
| 1983[d] | — | — | −0.6 | −0.6 | −0.6 |
| *Poland*[e] | | | | | |
| 1980 | −1.0 | −0.7 | −1.8 | −2.3 | −2.8 |
| 1981 | — | −0.5 | −1.8 | −2.6 | −1.9 |
| 1982 | 1.5 | 0.6 | −2.3 | −2.7 | −0.8 |
| 1983*d* | 1.5 | 0.8 | −1.9 | −2.3 | −0.4 |
| *Romania*[e] | | | | | |
| 1980 | −1.9 | — | −0.9 | −0.8 | −2.8 |
| 1981 | 0.2 | 0.5 | −1.0 | −1.0 | −0.8 |
| 1982 | 1.4 | 1.4 | −0.9 | −1.0 | 0.5 |
| 1983[d] | 2.4 | 2.0 | −0.8 | −0.8 | 1.6 |
| *Eastern Europe* | | | | | |
| 1979 | −4.8 | −4.6 | −2.3 | −3.7 | −7.1 |
| 1980 | −4.2 | −3.3 | −3.9 | −5.4 | −8.1 |
| 1981 | 0.4 | −2.4 | −5.0 | −7.1 | −4.6 |
| 1982 | 5.2 | 1.7 | −4.5 | −6.5 | 0.7 |
| 1983[d] | 6.1 | 2.5 | −3.1 | −5.0 | 3.0 |
| *Soviet Union* | | | | | |
| 1979 | 4.2 | 0.6 | 0.2 | −1.1 | 4.4 |
| 1980 | 3.4 | 2.4 | 0.2 | −1.1 | 3.6 |
| 1981 | −0.7 | −0.7 | — | −1.3 | −0.7 |
| 1982 | 4.3 | 0.6 | 0.1 | −1.2 | 4.4 |
| 1983[d] | 6.1 | 1.2 | 0.3 | −1.0 | 6.3 |
| *Eastern Europe and the Soviet Union*[f] | | | | | |
| 1979 | −0.6 | −4.0 | −2.5 | −5.2 | −3.1 |
| 1980 | −0.8 | −0.8 | −4.2 | −7.0 | −5.0 |
| 1981 | −0.3 | −3.2 | −5.6 | −9.0 | −5.8 |
| 1982 | 9.5 | 2.3 | −4.8 | −8.1 | 4.7 |
| 1983[d] | 12.2 | 3.7 | −3.1 | −6.3 | 9.1 |

*Sources*: As for table 4.3.1 (trade balances), national data and ECE secretariat estimates (net services and investment income)

*Note*: A positive balance indicates a surplus for the eastern economies

[a] Trade balance *f.o.b.-f.o.b.*, except for Hungarian imports which are shown *c.i.f.* in the national returns

[b] Developed market economies (see definition in footnote at beginning of section 4.4)

[c] Invisibles balances are ECE secretariat estimates, except in the cases of Hungary, Poland and Romania, 1979–1982. Data for these three countries reflect all interest incurred in convertible currencies. The invisibles data for Poland include convertible currency transfers from socialist countries of $131 million in 1980 and $328 million in 1981. Polish and Romanian official data have been adjusted to include interest arrears in the years in which they were incurred, to conform to IMF *Balance of Payments Manual* recommendations

*d* Calculation of trade balances for 1983 as described in table 4.4.5, footnote a

[e] See also Appendix table 4.4.5 for national data covering all convertible currency transactions,

[f] Includes estimated investment income deficit of the CMEA banks

since it occurred almost entirely as a result of an export volume push (energy) on the part of the Soviet Union which more than offset the effect of weakening oil prices. By contrast, in the past decade, western deficits, or declines in western surpluses, had occurred largely when western terms of trade deteriorated. In 1983 this situation more or less continued – a small western deficit was maintained owing to increased imports in the volume of energy that offset the decline in oil prices.

An analysis by country of the change in the extrapolated western trade deficit with eastern Europe in 1983 shows that the widening was due to a larger deficit with *Romania* (greater by some $500 million), a smaller surplus with *Hungary* (by $300 million), and a shift from balanced trade with *Poland* to a deficit of $300 million (table 4.4.7, panel A). These changes were partially offset by a $600 billion contraction in the western trade deficit with the *German Democratic Republic*.

The sample of *western countries* in panel B of table 4.4.7 can be divided into two groups according to the sign of their trade balance with the east during the past few years. *Austria*, *Belgium*, *France*, *Italy* and the *Netherlands* have recorded deficits with the east which, with the exception of Austria, had been widening until 1982. Those of Italy and the Netherlands were relatively large – over $2 billion – and, on the basis of the January–September data, are expected to remain of that order of magnitude in 1983. The data for other countries in this group indicate a contraction of deficits, particularly in the case of *France*.[369]

The western countries which have recently been in surplus have shown rather different trends. The *Federal Republic of Germany* used to have a surplus of over $2 billion with the east (excluding trade with the German Democratic Republic) in the mid-1970s. This was gradually eroded until trade was almost in balance in 1982. The January–September data suggest a significant improvement in the Federal Republic of Germany's trade balance with the east (excluding the German Democratic Republic) in 1983, perhaps to a surplus of $0.7 billion. *Japan*'s trade surplus had been widening in recent years reaching over $3 billion in 1982, but a somewhat smaller amount is likely in 1983. Since 1980 this outcome has been the consequence of continuous increases in exports (except for 1983) and consecutive annual drops in imports. The *United States* had been recording a relatively large annual surplus ($2–4 billion) which, on the basis of extrapolations, is likely to be sharply reduced in 1983, owing to drastically lower exports and higher imports. *Yugoslavia*'s trade balance had turned from a deficit to a surplus of almost $1 billion in 1981 and was maintained at that level in 1982; current trends suggest a smaller surplus in 1983. The trade accounts of the other two western countries given in table 4.4.7, panel B, *Finland* and the *United Kingdom*, have been close to balance.

After running a *current account* deficit in the balance of payments with the developed and developing market economies throughout the past decade, *eastern Europe* recorded a surplus of some $0.7 billion in 1982 (table 4.4.8),[370] and widened it to about $3 billion in 1983. In contrast to previous years when current account changes originated largely in the merchandise trade balance, in 1983 a larger trade surplus and a smaller deficit in *invisibles* played almost equal roles. The latter resulted mainly from a narrower *investment income* deficit (mostly interest payments) owing to both lower interest rates and declining net debt (also see section 4.1(ii)).

Improvements in the current account balances of all east European countries except Bulgaria, but particularly that of Romania, contributed to the change in the regional total in 1983. It is estimated that the current accounts of four countries – Bulgaria, Czechoslovakia, the German Democratic Republic and Romania – were in surplus or balanced in both 1982 and 1983. The *Soviet Union* was also in surplus with the market economies in those two years. Its current account surplus widened by an estimated $2 billion in 1983 to over $6 billion, owing almost exclusively to a further improvement in the trade account.

An important development to note is the decline in the investment income deficit for the reasons already mentioned. The deficit in this item peaked in 1981 at about $9 billion for eastern Europe and the Soviet Union and then contracted by about $1 billion in 1982. Even greater savings – perhaps some $1.8 billion – may have been realized in 1983. As noted in section 4.1(ii) this represents a considerable decline in the east's debt service burden.

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[369] This change originates largely in trade with the Soviet Union. It could be the result of publicly announced efforts, on the part of France, to reduce its imbalance with the Soviet Union by reducing the imports of oil and oil products from the Soviet Union and encouraging that country to purchase more French goods. However, the overall narrowing of the French deficit is likely to have contributed as well.

[370] As an *approximation* to the trade balance component of the eastern convertible currency current account, the eastern trade balance with developed and developing market economies is used here. Beyond the west, as the term is defined in this section, this grouping also includes the developed countries of the southern hemisphere and the developing countries, most of which conduct trade on a convertible currency basis. The trade balance data shown thus on the one hand include balances on clearing accounts (on which in general very little is known, especially for the current year), and on the other hand exclude balances on convertible currency transactions among the socialist countries, which for some of the east European countries are important (especially Hungary). A number of eastern countries (Hungary, Poland, Romania) recently have begun to publish current account balance of payments in terms of all convertible currency transactions (see Appendix table 4.4.5), but such data are not available for the remainder of the eastern countries.

### APPENDIX TABLE 4.4.1

### East-west trade, by country: growth of trade value, trade balances, 1977–1983

*(Growth rates in percentage; trade balances in billion US dollars)*

| Reporting country: | Growth of western exports | | | | | | | Growth of western imports | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | Jan.-Sept. 1983 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | Jan.-Sept. 1983 |
| Austria | 10 | 18 | 20 | 5 | −14 | −4 | 4 | 15 | 11 | 27 | 34 | 6 | −13 | −10 |
| Belgium-Luxembourg | −4 | 12 | 24 | 24 | −15 | −18 | 25 | 22 | 15 | 29 | 53 | −10 | 27 | −13 |
| Denmark | 1 | 18 | 11 | 5 | −27 | −21 | −9 | −15 | 15 | 35 | 10 | −28 | 11 | −13 |
| Finland | 13 | 3 | 3 | 55 | 32 | 1 | −5 | 11 | — | 47 | 45 | −1 | −1 | 1 |
| France | 2 | 5 | 38 | 15 | −16 | −28 | 21 | 11 | 16 | 28 | 62 | −6 | −14 | −6 |
| Germany, Federal Republic[a] | 6 | 16 | 13 | 9 | −20 | −1 | 5 | 12 | 25 | 42 | 7 | −11 | 2 | −4 |
| Greece | 17 | 15 | −7 | 45 | −34 | −3 | −22 | −4 | 70 | −11 | 3 | −3 | −9 | −10 |
| Iceland | 51 | −21 | 30 | 29 | −14 | −19 | −4 | 15 | −7 | 51 | 6 | −14 | 2 | −4 |
| Ireland | 47 | 30 | 87 | 55 | −32 | −17 | 90 | 30 | 11 | 45 | −25 | −22 | 15 | 24 |
| Italy | 16 | 6 | 9 | 3 | −10 | −1 | 12 | 6 | 7 | 32 | 41 | −10 | 10 | 1 |
| Netherlands | 7 | 15 | 22 | 24 | −2 | −28 | 10 | 11 | 16 | 49 | 26 | 16 | 24 | — |
| Norway | — | 16 | −23 | 8 | −1 | −20 | 6 | 15 | −19 | 24 | −7 | 8 | 44 | −26 |
| Portugal | −2 | −8 | 29 | −5 | −7 | 3 | 13 | — | −19 | 55 | 8 | 23 | −51 | −22 |
| Spain | −6 | 25 | 54 | — | 44 | −45 | 20 | −19 | 10 | 47 | 37 | 11 | — | 12 |
| Sweden | −9 | 4 | 19 | 2 | −13 | −21 | −19 | 1 | −5 | 63 | −8 | −21 | 21 | 23 |
| Switzerland | 11 | 21 | — | −1 | −20 | −5 | −5 | 20 | 41 | 34 | 25 | −13 | −8 | −13 |
| Turkey | 5 | 86 | −7 | 60 | −33 | −4 | −24 | 5 | 13 | 60 | 22 | 5 | −49 | 76 |
| United Kingdom | 24 | 29 | 9 | 28 | −23 | −26 | −1 | 17 | 4 | 30 | −4 | −44 | 18 | 2 |
| Yugoslavia | −6 | 22 | 14 | 62 | 24 | — | −11 | 18 | 11 | 23 | 40 | — | −1 | — |
| Western Europe[a] | 6 | 14 | 15 | 19 | −7 | −9 | 2 | 10 | 13 | 35 | 25 | −8 | 2 | −2 |
| Southern Europe[b] | −3 | 25 | 14 | 50 | 16 | −5 | −9 | 9 | 16 | 24 | 32 | 2 | −9 | 5 |
| Canada | −31 | 36 | 33 | 79 | 7 | 8 | −5 | −4 | 7 | 33 | −11 | 1 | −31 | −3 |
| United States | −28 | 45 | 54 | −32 | 11 | −16 | −38 | 6 | 37 | 8 | 4 | 13 | −31 | 18 |
| North America | −28 | 43 | 51 | −16 | 9 | −9 | −27 | 4 | 31 | 12 | 2 | 11 | −31 | 15 |
| Japan | −5 | 20 | 2 | 10 | 12 | 12 | −15 | 21 | 1 | 34 | −4 | −17 | −12 | −14 |
| Developed market economies[a] | — | 18 | 19 | 12 | −4 | −7 | −4 | 11 | 13 | 34 | 22 | −8 | — | −2 |

### Appendix Table 4.4.1 (*continued*)

| Reporting country: | Western trade balances (*Billion US dollars*)<br>1970 | 1975 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983[c] |
|---|---|---|---|---|---|---|---|---|---|
| Austria | 0.05 | 0.36 | 0.21 | 0.33 | 0.29 | −0.18 | −0.61 | −0.35 | −0.1 |
| Belgium – Luxembourg | 0.00 | 0.27 | 0.08 | 0.07 | 0.05 | −0.23 | −0.28 | −0.86 | −0.4 |
| Denmark | −0.02 | −0.20 | −0.19 | −0.21 | −0.36 | −0.41 | −0.29 | −0.41 | −0.3 |
| Finland | −0.04 | −0.16 | 0.03 | 0.08 | −0.65 | −0.75 | 0.19 | 0.28 | — |
| France | 0.22 | 0.99 | 0.66 | 0.47 | 0.89 | −0.43 | −0.86 | −1.31 | −0.4 |
| Germany Fed. Rep.[a] | 0.26 | 3.37 | 2.32 | 2.28 | 0.98 | 1.18 | 0.27 | 0.04 | 0.7 |
| Greece | 0.02 | 0.02 | −0.01 | −0.20 | −0.16 | −0.02 | −0.18 | −0.14 | −0.2 |
| Iceland | 0.00 | −0.01 | −0.01 | −0.01 | −0.03 | −0.02 | −0.02 | −0.03 | — |
| Ireland | −0.02 | −0.05 | −0.08 | −0.09 | −0.11 | −0.03 | −0.03 | −0.06 | — |
| Italy | −0.03 | 0.39 | −0.15 | −0.19 | −0.81 | −2.15 | −1.90 | −2.34 | −2.1 |
| Netherlands | 0.01 | 0.04 | −0.17 | −0.21 | −0.57 | −0.74 | −1.12 | −2.12 | −2.0 |
| Norway | −0.02 | 0.01 | −0.11 | 0.01 | −0.14 | −0.09 | −0.13 | −0.35 | −0.2 |
| Portugal | −0.00 | −0.03 | −0.07 | −0.05 | −0.09 | −0.11 | −0.17 | −0.03 | — |
| Spain | 0.01 | −0.17 | −0.04 | 0.00 | 0.03 | −0.17 | −0.01 | −0.36 | −0.4 |
| Sweden | 0.03 | 0.08 | −0.12 | −0.02 | −0.47 | −0.31 | −0.15 | −0.63 | −1.1 |
| Switzerland | 0.08 | 0.41 | 0.30 | 0.25 | −0.03 | −0.31 | −0.34 | −0.29 | −0.2 |
| Turkey | −0.02 | −0.10 | −0.12 | −0.01 | −0.24 | −0.18 | −0.37 | −0.04 | −0.4 |
| United Kingdom | 0.05 | −0.10 | −0.60 | −0.27 | −0.73 | −0.14 | 0.47 | −0.33 | −0.3 |
| Yugoslavia | −0.00 | 0.18 | −0.42 | −0.25 | −0.51 | −0.12 | 0.91 | 0.97 | 0.5 |
| Western Europe[a] | 0.57 | 5.29 | 1.52 | 1.97 | −2.66 | −5.20 | −4.61 | −8.35 | −6.9 |
| Southern Europe[b] | 0.00 | −0.10 | −0.65 | −0.50 | −0.97 | −0.59 | 0.19 | 0.40 | −0.4 |
| Canada | 0.07 | 0.45 | 0.37 | 0.55 | 0.74 | 1.55 | 1.67 | 1.88 | 1.8 |
| United States | 0.13 | 2.05 | 1.62 | 2.42 | 4.31 | 2.43 | 2.66 | 2.48 | 1.0 |
| North America | 0.19 | 2.50 | 1.99 | 2.98 | 5.05 | 3.98 | 4.33 | 4.36 | 2.8 |
| Japan | −0.05 | 0.98 | 1.20 | 1.72 | 1.28 | 1.69 | 2.44 | 3.09 | 2.7 |
| Developed market economies[a] | 0.72 | 8.77 | 4.71 | 6.67 | 3.67 | 0.46 | 2.16 | −0.90 | −1.4 |

*Sources*: As for table 4.4.1

*Note*: Based on western sources. A positive balance indicates a western surplus

[a] Excluding trade between the Federal Republic of Germany and the German Democratic Republic.

[b] Southern Europe includes Greece, Portugal, Spain, Turkey and Yugoslavia

[c] Extrapolated assuming a continuation of Jan.–Sept. trends of exports and imports

### Appendix Table 4.4.2

### East-west trade: shares in total western exports and imports, by country, 1975, 1980–1983

(*Percentage*)

| Country of destination or origin | Share in western exports<br>1975 | 1980 | 1981 | 1982 | 1983[a] | Share in western imports<br>1975 | 1980 | 1981 | 1982 | 1983[a] |
|---|---|---|---|---|---|---|---|---|---|---|
| Bulgaria | 0.21 | 0.14 | 0.16 | 0.14 | 0.15 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Czechoslovakia | 0.38 | 0.28 | 0.24 | 0.24 | 0.25 | 0.33 | 0.28 | 0.26 | 0.27 | 0.28 |
| German Dem. Rep.[b] | 0.52 | 0.47 | 0.44 | 0.41 | 0.49 | 0.46 | 0.41 | 0.42 | 0.47 | 0.50 |
| Hungary | 0.34 | 0.29 | 0.29 | 0.28 | 0.26 | 0.23 | 0.23 | 0.21 | 0.21 | 0.22 |
| Poland | 1.00 | 0.55 | 0.37 | 0.30 | 0.30 | 0.58 | 0.42 | 0.29 | 0.29 | 0.32 |
| Romania | 0.38 | 0.33 | 0.26 | 0.16 | 0.11 | 0.30 | 0.27 | 0.28 | 0.22 | 0.23 |
| Eastern Europe[b] | 2.82 | 2.06 | 1.76 | 1.53 | 1.57 | 1.97 | 1.68 | 1.54 | 1.54 | 1.62 |
| Soviet Union | 2.36 | 1.90 | 2.09 | 2.26 | 2.30 | 1.63 | 2.01 | 2.05 | 2.28 | 2.30 |
| Eastern Europe and Soviet Union[b] | 5.17 | 3.95 | 3.85 | 3.79 | 3.87 | 3.59 | 3.68 | 3.59 | 3.82 | 3.91 |

*Source*: As for table 4.4.1.

[a] Market shares based on extrapolated values of western imports and exports from and to the east and the world, assuming a continuation of the January–September trends through the rest of the year

[b] Including trade between the Federal Republic of Germany and the German Democratic Republic

## APPENDIX TABLE 4.4.3

### Changes in the value of western imports from eastern Europe and the Soviet Union in first half of 1983, by commodity[a]

| SITC Section | Bulgaria | Czechoslovakia | German Democratic Republic | Hungary | Poland | Romania | Eastern Europe | Soviet Union |
|---|---|---|---|---|---|---|---|---|
| | | | *(In per cent)* | | | | | |
| Food and live animals (0) | −11 | −9 | −80 | −14 | 40 | −23 | −4 | 10 |
| Beverages and tobacco (1) | 6 | −18 | 104 | −17 | — | 17 | — | 98 |
| Crude materials (2) | −27 | −2 | 20 | −8 | −12 | −34 | −8 | −7 |
| Mineral fuels (3) | 96 | 13 | 67 | 44 | 1 | 9 | 20 | −4 |
| Animal and vegetable oils (4) | −42 | 1 | 14 | −28 | −29 | −63 | −31 | 323 |
| Chemicals (5) | −29 | −3 | −1 | 2 | 9 | −15 | −4 | 5 |
| Manufactured goods (6) | −30 | −10 | −4 | −15 | −9 | −22 | −12 | −1 |
| Machinery, transport equipment (7) | −60 | −10 | −12 | 1 | −26 | −31 | −17 | −1 |
| Miscellaneous manufactures (8) | −10 | −5 | −6 | 4 | −10 | −5 | −4 | −13 |
| Not elsewhere classified (9) | −36 | 1 | 39 | 7 | −55 | 2 | −10 | −57 |
| Total (0–9) | −6 | −3 | 5 | −4 | −2 | −9 | −3 | −6 |
| | | | *(In millions of US dollars)* | | | | | |
| Food and live animals (0) | −6 | −8 | −35 | −35 | 73 | −14 | −26 | 10 |
| Beverages and tobacco (1) | 2 | −1 | — | −3 | — | 1 | — | 10 |
| Crude materials (2) | −5 | −3 | 9 | −9 | −23 | −14 | −44 | −66 |
| Mineral fuels (3) | 46 | 30 | 109 | 24 | 6 | 36 | 251 | −398 |
| Animal and vegetable oils (4) | −2 | — | 1 | −5 | −1 | −7 | −13 | 9 |
| Chemicals (5) | −11 | −4 | −1 | 3 | 5 | −14 | −23 | 20 |
| Manufactured goods (6) | −21 | −36 | −8 | −29 | −26 | −50 | −170 | −9 |
| Machinery, transport equipment (7) | −21 | −13 | −20 | 2 | −40 | −29 | −122 | −1 |
| Miscellaneous manufactures (8) | −4 | −7 | −7 | 7 | −15 | −15 | −42 | −5 |
| Not elsewhere classified (9) | −1 | 0 | 1 | 1 | −6 | — | −4 | −332 |
| Total (0–9) | −22 | −43 | 50 | −45 | −27 | −107 | −194 | −763 |

*Source*: United Nations Statistical Office, COMTRADE, Quarterly trade data, "Series D". These data are based upon SITC Rev. 2

*Note*. In contrast to the broader coverage of tables 4.4.1 and Appendix table 4.4.1, coverage here and in Appendix table 4.4.4 is reduced to countries for which data were available for the first half of 1983 and the same period in 1982. Austria, Belgium-Luxembourg, Canada, Finland, France, the Federal Republic of Germany, Greece, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States. These 15 countries account for some 80 per cent of total western trade with eastern Europe and the Soviet Union. Therefore, growth rates of total imports and exports based on this sample differ from the growth rates of total trade as given in table 4.4.1, 4.4.2 and Appendix table 4.4.1 because of differences in country coverage but also because the data for total trade comprise the first three quarters. These data exclude trade between the Federal Republic of Germany and the German Democratic Republic

SITC section codes are in parentheses

[a] First half of 1983 relative to the same period in 1982

### Appendix Table 4.4.4

### Changes in the value of western exports to eastern Europe and the Soviet Union in the first half of 1983, by commodity[a]

| SITC Section | Bulgaria | Czechoslovakia | German Democratic Republic | Hungary | Poland | Romania | Eastern Europe | Soviet Union |
|---|---|---|---|---|---|---|---|---|
| | | | | *(In per cent)* | | | | |
| Food and live animals (0) | −58 | −45 | — | 107 | −44 | −90 | −37 | −27 |
| Beverages and tobacco (1) | −26 | −76 | −24 | 97 | 33 | 94 | −15 | −18 |
| Crude materials (2) | −28 | −15 | 6 | −29 | 41 | 4 | −1 | −12 |
| Mineral fuels (3) | 68 | −13 | 13 | −19 | −2 | −34 | −23 | −43 |
| Animal and vegetable oils (4) | 3 | −18 | −28 | −5 | −46 | −81 | −38 | 9 |
| Chemicals (5) | — | −8 | −5 | −16 | −2 | −23 | −10 | −9 |
| Manufactured goods (6) | −10 | 8 | −5 | −27 | 49 | −27 | −8 | 3 |
| Machinery, transport equipment (7) | 9 | −13 | 35 | −37 | 12 | −42 | −9 | 37 |
| Miscellaneous manufactures (8) | 11 | −3 | 45 | −22 | 38 | −25 | −1 | −14 |
| Not elsewhere classified (9) | 49 | 36 | — | 19 | −1 | 17 | 8 | 21 |
| Total (0–9) | −6 | −12 | 9 | −23 | −6 | −35 | −13 | −1 |
| | | | | *(In millions of US dollars)* | | | | |
| Food and live animals (0) | −42 | −49 | — | 38 | −228 | −130 | −410 | −860 |
| Beverages and tobacco (1) | −5 | −10 | −4 | 5 | 3 | 1 | −10 | −8 |
| Crude materials (2) | −10 | −13 | 2 | −20 | 30 | 5 | −5 | −51 |
| Mineral fuels (3) | 7 | −2 | — | −3 | — | −40 | −37 | −72 |
| Animal and vegetable oils (4) | — | −2 | −1 | — | −14 | −2 | −19 | 5 |
| Chemicals (5) | 1 | −18 | −5 | −57 | −5 | −36 | −121 | −104 |
| Manufactured goods (6) | −18 | 11 | −10 | −116 | 81 | −58 | −110 | 103 |
| Machinery, transport equipment (7) | 21 | −35 | 79 | −173 | 31 | −70 | −147 | 971 |
| Miscellaneous manufactures (8) | 4 | −2 | 12 | −24 | 16 | −10 | −4 | −79 |
| Not elsewhere classified (9) | 3 | 3 | — | 3 | −1 | 1 | 9 | 21 |
| Total (0–9) | −39 | −116 | 74 | −348 | −87 | −338 | −854 | −75 |

*Source* Same as Appendix table 4.4.3

[a] First half of 1983 relative to the same period in 1982

### Appendix Table 4.4.5

### Selected east European countries: current account balance of payments in convertible currencies, 1979–1982

*(Millions of US dollars)*

| | 1979 | 1980 | 1981 | 1982 |
|---|---|---|---|---|
| *Hungary*[a] | | | | |
| Total | −826 | −368 | −727 | −63 |
| *of which*: | | | | |
| Merchandise | −167 | 276 | 445 | 66 |
| Services and transfers | −293 | −235 | −72 | 147 |
| Investment income | −366 | −409 | −1 100 | −976 |
| *Poland* | | | | |
| Total | −3 500 | −2 600 | −2 100 | −1 000 |
| *of which*: | | | | |
| Merchandise | −2 200 | −800 | −800 | 400 |
| Services and transfers | 400 | 500 | 800 | 400 |
| Investment income | −1 600 | −2 300 | −2 100 | −1 800 |
| *Romania*[b] | | | | |
| Total | −1 650 | −2 333 | −777 | 748 |
| *of which*: | | | | |
| Merchandise | −1 155 | −1 534 | 204 | 1 525 |
| Services, income and transfers | −495 | −799 | −981 | −776 |

*Sources*: Hungary: National Bank of Hungary, *Economic Bulletin*, various issues, Poland Central Statistical Office, *Rocznik statystyczny 1983*, Warsaw 1983, p.85, Romania: IMF, *Balance of Payments Statistics*, Vol 34, Part 1, 1983

[a] According to Mr. J. Fekete, Deputy Governor of the National Bank, Hungary had a $300 million surplus on current account in convertible currencies in 1983 *Financial Times*, 20 January 1984, p 3

[b] Only the merchandise trade balance and the travel item included in services, income and transfers are exclusively in terms of convertible currencies

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